REPORT ON A COLLECTION OF SHELLS FROM PERU, WITH A SUMMARY OF THE LITTORAL MARINE MOLLUSCA OF THE PERUVIAN ZOOLOGICAL PROVINCE.

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INTRODUCTION.

Under the auspices of the Ministerio de Fomento of Peru, Mr. R. E. Coker was engaged in making studies and collections of animals of the Peruvian coast with the intention of contributing to the knowledge of the aquatic resources of the country. In the course of this work numerous economic notes were made in relation to the animals obtained.

On the portion of the collection consisting of Mollusca, the authorities of Peru, through the intervention of Mr. Coker, have requested the writer to prepare a report.

It was found on looking into the matter that no systematic list of the shore mollusks of the Peruvian province had been published for more than half a century. It was thought that the value of this report to the naturalists of Peru and elsewhere would be considerably enhanced, after discussing the collection in question, if to it was added a list of the species reported as occurring on the shores of the Peruvian zoological province. The present report therefore contains both, together with illustrations of the chief economic mollusks of the Peruvian coast and islands contained in the collection.

It should be said that specimens of this collection have been returned with identifications, to the Peruvian authorities, and another series retained in the U. S. National Museum for reference. The notes in small type were prepared by Mr. Coker, who also collected the local names by which the more conspicuous species are known to the fishermen and local salesmen. It will be observed that these "common" names are no more precise or descriptive than those of our own fishermen, the same name being often applied to extremely distinct animals.

ANNOTATED LIST OF THE MOLLUSCA COLLECTED.

ANOMIA PERUVIANA Orbigny.

Plate 28, fig. 4.

Anomia peruviana Orbigny, Voy. Amer. Mér., vol. 5, 1846, p. 673.—Philippi, Abh. und Beschr. Neue Conch., vol. 3, 1850, p. 211, pl. 1, fig. 2.

Anomia lampe Gray, Proc. Zool. Soc. of London for 1849, p. 117.—Reeve, Conch. Icon., vol. 11, *Anomia*, 1859, pl. 4, fig. 16.

Concha perla. Not "Concha de la Perla Viuda," which is applied to *Pteria*, the pearl oyster. Common, sessile on oysters, etc., near Capon and Matapalo.

Distribution.—From San Pedro, California, to Paita, Peru.

Shell very thin, pearly; white or coppery brown on the upper valve, bluish green internally and on the central part of the lower valve; sessile on other shells or smooth objects adhering by a prominent byssus which passes through a large hole in the lower valve. The scars of the muscles in an area on the inside of the upper valve form a nearly even straight row radiating from the direction of the hinge. The species can be distinguished from the other local species, *Anomia adamas* Gray, by the fact that the latter has the two distal scars on the area side by side and about equidistant from the hinge.

These shells have no economic relation unless it is that, when present in large numbers, they are injurious to the oysters upon which they perch, by consuming food the latter might otherwise get, or by overloading the oysters with their weight.

The *A. adamas* Gray, has been collected in Sechura Bay, at Matacaballa, but seems to be less common than *A. peruviana.*

OSTREA MEGODON Hanley.

Ostrea megodon Hanley, Proc. Zool. Soc. of London for 1845, p. 106.—Sowerby, in the Conchologia Iconica, vol. 18, *Ostrea*, 1871, pl. 12, fig. 24.

Taken in dredge, Bay of Sechura, about halfway between Bayovar and Matacaballa.

Distribution.—From Scammon Lagoon, Lower California, and the Gulf of California, south to Peru. Fossil in the Antilles.

This species is very thin, narrow, and ribbon like; the margin fluted by four or five broad rounded waves, the color pale brownish when fresh, bleaching to white when beach worn. It has no economic value.

OSTREA CHILENSIS Philippi.

Plate 26, fig. 1.

Ostrea chilensis Philippi, Martini-Chemnitz Conch. Cab., 2d ed., *Ostrea*, 1845, p. 74, pl. 13, figs. 7–8.

Ostra of the fishermen. From the roots of mangroves, near the mouth of the Tumbes River.

Distribution.—From the island of Chiloë northward to the coast of Ecuador.

Shell ovate trigonal, irregular, moderately heavy; externally grayish white, internally white, sometimes faintly tinged with green;

the muscular scars white; the lower valve deep, rugose-scaly, the upper valve nearly flat.

This species is reported by Hupé to have as good a flavor as the edible oyster of Europe, yet the natives of South America will eat it only when cooked. It seems from an economic standpoint to be the most important species of the genus in the region where it occurs. It is easily distinguished from the following species in any of its mutations by the white or pale green margin of the valves.

OSTREA COLUMBIENSIS Hanley.

Plate 26, fig. 2.

Ostrea columbiensis Hanley, Proc. Zool. Soc. of London, for 1845, p. 107.—Sowerby, in the Conchologia Iconica, *Ostrea*, 1871, pl. 7, fig. 10a-b.

From the roots of the mangroves near the mouth of the Rio Tumbes; on the beach near the Estero Bendito; and bought in Callao, where they had been brought from the Tumbes region. *Ostra* of the fishermen.

Distribution.—From the Gulf of California south to Coquimbo, Chile.

Shell smaller than that of the preceding species, streaked with purple externally, the margins of the valves and the muscular scars purple or tinged with purple; ligamentary area broad, the beak of the lower valve strongly laterally recurved; form irregularly rounded trigonal, externally more or less lamellose and somewhat obscurely radiately ridged.

This species, distinguished by its purple scars and margins, is gathered for sale in the markets, but never attains the size of *O. chilensis.*

PECTEN PURPURATUS Lamarck.

Plate 26, figs. 5, 6.

Pecten purpuratus Lamarck, Anim. s. Vert., vol. 6, pt. 1, 1819, p. 166.—Sowerby, Thesaurus Conch., vol. 1, 1843, p. 53, pl. 15, fig. 113; pl. 16, figs. 123–125.

Concha abanico or conchitas. Taken near San Lorenzo Island, in Callao Bay, in about 15 feet of water, and in Sechura Bay, half-way between Bayovar and Matacaballa.

Distribution.—From Coquimbo, Chile, northward to Ecuador.

Shell orbicular, moderately convex, subequivalve, rather thin, with about 26 flat-topped ribs, laterally fringed, and separated by channeled interspaces; colors white, rose color, and different shades of purple distributed in an irregular manner; the interior zoned with blackish purple.

The large adductor muscle of this species is a delicious morsel when delicately cooked. The Chilean name for the species is *Ostion.*

PTERIA PERUVIANA Reeve.

Plate 28, fig. 1.

Avicula peruviana Reeve, Conchologia Iconica, vol. 10, *Avicula*, 1857, pl. 14, fig. 53.

Concha perla viuda, purchased in Paita.

Distribution.—Gulf of California to Peru.

Shell large, inequivalve, very inequilateral, thin, purple or reddish with radiating yellowish rays externally, internally pearly with a dull margin, hinge line produced into auricles or "wings," the posterior usually longer and more broad, the anterior smaller and separated from the body of the valve by a conspicuous sinus in the flat valve, surface smooth or slightly laminated, the body of the shell plump, the extremities compressed. Byssiferous and potentially migratory.

This is the species originally abundant on this coast which supplied the pearl fisheries of Paita and Sechura bays, and at present the pearl industry of the Gulf of California. For the most part these fisheries have been destroyed by overfishing, and the mollusks no longer occur in sufficient profusion to afford a commerce of real importance.

THE PEARL FISHERY IN PERU IN MODERN TIMES.

It seems that on the finding of pearls two companies were formed, one of which held a concession from the Government to take pearls from Tallara on the north to the Rio Piura on the south, while the latter fished from this river south to the Punta Aguja. The southern company employed divers in Panama, and made a promising start. Something like 200 pearls were taken at the outset, yielding about $2,000 and repaying expenses. After this practically nothing was obtained. They then began exploring with dredges, the two companies finally working in conjunction in this investigation. They worked in water of from 2 to 12 fathoms and up to a distance of 7 miles from the shore, but failed to locate any bank of pearl oysters. It is believed, however, that there is somewhere in the bay a considerable bank of these shellfish, since when the wind blows stiffly from the north the beach is often strewn with the concha perlas. The conchas so found contain few pearls, and these of little value. The rastras which were used for exploring the bay were much like those used in Callao for concha abanicos, but with sharper teeth. No attempts have been made since 1901. The most valuable pearl was black and small, and worth $400. For most of the above information I am indebted to Sr. Manuel Perez, who was the representative of the company which held the southern concession.

Getting such directions as were practicable regarding the location where the conchas were formerly encountered, I made several efforts with rastras to find them, but without success in this direction. Other forms of especial interest were taken, however. Later, at Paita, having obtained a dredge formerly used for the concha perlas, and a guide who had worked with one of the companies, we made other attempts a little south of Paita, but again with no success beyond the finding of a few dead shells. It is evident from this and from the repeated failures of the pearl companies that the locating of these banks would be accomplished only by long and thorough survey.

MYTILUS CHORUS Molina.

Plate 25, fig. 1.

Mytilus chorus Molina, Hist. de Chile, 1782, p. 202, ed. 1787, p. 177; Conchologia Iconica, *Mytilus*, pl. 2, fig. 4.

Choro. From Windy Bay, in the southeast part of Independencia Bay.

Distribution.—From Coquimbo, Chile, northward to Peru. Known in Chile as Almeja, or Choro de Concepcion, after Conception Bay, where it abounds.

Shell large, ovate oblong, bluish with a thick black periostracum, smooth or concentrically subrugose; anterior end pointed, recurved; distal end rounded, produced; a single denticle at the hinge; the interior white with a bluish margin; byssus strong.

This is the largest of the mussels on the coast, and is regarded as the best of the edible shellfish. It is collected for the market where plentiful and transported to the principal towns as a standard article of sea food.

MYTILUS MAGELLANICUS Lamarck.

Plate 25, fig. 4.

Mytilus magellanicus Lamarck, Anim. s. Vert., vol. 6, pt. 1, 1819, p. 119; Encyclop. Méth., pl. 217, fig. 2.

Choro. Ancon and Callao Bays.

Distribution.—From Magellan Straits northward to Chile and Peru; the northern specimens smaller and less rugose than the more southern variety.

Shell of moderate size, straight, ovate-elongate, ventricose, anteriorly attenuated, subpyriform, blackish brown, varying to chestnut, with a thick periostracum; inside with a bluish nacre somewhat distributed in zones; the exterior feebly concentrically sculptured, the anterior half of the shell with more or less distinct radiating grooves and ridges.

Distinguishable from the young of *M. chorus* by the anterior radial sculpture.

MYTILUS ATER Molina.

Mytilus ater Molina, Hist. de Chile, 1782, p. 203.

Mytilus orbignyanus Hupé, in Gay, Hist. de Chile, vol. 8, 1854, p. 211, pl. 5, fig. 5.

Choro. From rocks along the shore on the northeast side of San Lorenzo Island, Callao Bay. Also taken from the bottom of a small vessel after a voyage from Callao to the island Lobos de Afuera.

Distribution.—From Talcahuano, Chile, northward to Ecuador and the Galapagos Islands.

This species differs from the preceding in being quite smooth, without radiating sculpture, and when full grown does not exceed 3 inches in length. It takes the place of *Mytilus edulis* in the northern hemisphere, and is chiefly found near tide limits on rocky shores. The specimens collected by Mr. Coker were very young, but seem to be referable to this species.

MYTILUS GRANULATUS Hanley.

Mytilus granulatus Hanley, Proc. Zool. Soc. of London, for 1844, p. 17.—Gay, Hist. de Chile, vol. 8, 1854, p. 312, pl. 5, fig. 7.

Abundant on the rocky shores of the island Lobos de Afuera.

Distribution.—From Chiloë Island north to the Peruvian coast and islands.

Shell small, trigonal, inflated, thick, yellowish-brown, radiately conspicuously and closely costate, the costæ divaricating and bifurcating; anterior end high, obtuse; posterior end dilated, obliquely truncated; interior whitish, with a crenulate margin; the costæ are more or less distinctly granulate, and the form of the shell variable.

This species has no economic importance.

MODIOLUS GUYANENSIS Lamarck.

Plate 27, fig. 2.

Modiola guyanensis Lamarck, An. s. Vert., vol. 6, 1819, p. 112.—Reeve, Conch. Iconica, vol. 10, *Modiola*, 1857, pl. 4, fig. 17.

Mejillones. From the flats at Capon and at the mouth of the Tumbes River, embedded in soft mud. They are usually quite buried or covered with mud, but their presence can be recognized by slits in the mud, such as would be made by thrusting in a broad knife blade. They occur in the mud floor of mangrove swamps and are commonly used for food.

Distribution.—Peru to the Gulf of California on the west, Guiana on the north, and south to Rio on the east coast of South America.

This is one of the few species which occur on both the eastern, northern, and western shores of South America. It was described by Lamarck from Guiana; there is a specimen from Rio Janeiro, obtained by Anthony, in the National Collection, and we now have it from Guayaquil and Peru.

Shell oblong, wedge shaped, externally green behind and above; the green area concentrically minutely wrinkled and separated from the rufous brown anterior part by a narrow lighter ray; ventral edge nearly straight, the interior pearly white, purple behind; the anterior end attenuated and the beaks adjacent.

This is one of the most attractive species of the genus when in good condition.

MODIOLUS ARCIFORMIS, new species.

Plate 28, fig. 2.

Huaquilla on the Ecuador border; apparently from a shellheap.

Two fragments of a slender arcuate *Modiolus* were gathered with the other dead shells from the shore at this locality and appear to belong to an undescribed species.

Shell slender, arcuate, of a pale brownish-white color (more or less bleached?) with some purple undertones dorsally; moderately tumid, with nearly terminal, very inconspicuous adjacent beaks; dorsal margin arcuate, very slightly subangulate at the end of the hinge line; posterior end rounded; anterior attenuated and rounded; base flattish and excavated or subconcave; bounded above by an obscure ridge; interior very pearly, of a lurid brown color, especially near the hinder edge, paler in the anterior region; shell margins simple; anterior adductor scar triangular, small, and deep; posterior scar larger, less impressed and near the posterior end of the shell. The type (Cat. No. 207756, U.S.N.M.) measured: Length of shell, 65; height at middle, 21; diameter at middle, 18 mm.

The nearest species to this is Carpenter's *Modiolus mutabilis*, which, however, is not arcuate to any conspicuous extent and has a different basal profile. It is also in all probability when adult a much larger shell.

MODIOLUS PURPURATUS Lamarck.

Modiola purpurata Lamarck, Anim. s. Vert., vol. 6, pt. 1, 1819, p. 113.

Modiola ovalis Clessin, Martini Chemnitz, Conch. Cab., 2d ed., 1889, *Mytilacea*, p. 125, pl. 33, figs. 4, 5.

Choro. Callao Bay, island of San Lorenzo, on rocks; also at Estero Zarumilla on the Ecuador border, near Capon.

Distribution.—From Punta Arenas, Chile, north to Ecuador, on the rocky shores of the whole Peruvian province.

Shell small, oval, coarsely radiately grooved, black or blackish purple with a thick periostracum, solid, angular anteriorly; interior purple, the margin crenate, not denticulate near the hinge; the concentric incremental lines sometimes crenulate the radial ridges.

This small shell has no economic value, but is abundant on the rocky beaches. The beaks are often badly eroded.

LITHOPHAGA (MYOFORCEPS) ARISTATA Dillwyn.

Mytilus aristatus Dillwyn, Descr. Cat. Rec. Shells, vol. 1, 1817, p. 303.—Wood, Ind. Test., 1828, pl. 12, fig. 8.

Taken in dredge about halfway between Bayovar and Matacaballa, Sechura Bay.

Distribution.—Red Sea, West Africa, West Indies, the west coast of America from the Gulf of California south to Chile, boring in coral, lime rock, and nullipores.

Shell small, slender, thin, nearly cylindrical, rounded and blunt in front, pointed behind; the surface is covered with a thin brown periostracum beneath which the shell is white; it deposits the calcareous matter from its boring on the exterior of the posterior end of the shell, forming a smooth coating which is extended on each valve beyond the end of the valve into a point; these points pass by each other like the blades of a pair of scissors.

This shell is of no economic importance, but is interesting on account of its boring habit and the singular form of the incrustation from which its subgeneric name was derived. The allied *L. attenuata* Deshayes, which also occurs on this coast, is distinguished by having the prolongations of its incrustation proximally flat and opposite like a duck's bill, instead of alternate.

ARCA (ANADARA) GRANDIS Broderip and Sowerby.

Plate 25, figs. 9, 10.

Arca grandis BRODERIP and SOWERBY, Zool. Journ., vol. 4, 1829, p. 365.—REEVE, Conch. Iconica, *Arca*, 1844, pl. 1, fig. 4.

Pata de Burro. From the oyster banks of Matapalo, near Capon, and at Huaquilla, on the northern border of Peru. A large coarse form eaten by fishermen.

Distribution.—From Magdalena Bay, Lower California, south to Peru. Common in the mud about mangrove roots.

Shell large, heavy, white, covered with a strong smooth dark olivaceous periostracum; obliquely subquadrangular, with strong radiating rounded ribs crenulated only near the anterior end of the shell.

The name applied by the Tumbes fishermen to this heavy coarse bivalve is the same which in the south they give to the univalve *Concholepas*.

ARCA (SCAPHARCA) TUBERCULOSA Sowerby.

Plate 27, fig. 4.

Arca tuberculosa SOWERBY, Proc. Zool. Soc. of London for 1833, p. 19.—REEVE, Conch. Iconica, *Arca*, 1844, pl. 3, fig. 18.

Concha prieta. Mouth of the river Tumbes, and near Capon, from the muddy floor of mangrove swamps. Among the first phenomena to catch one's attention on entering the mangrove swamps is a sound, heard repeatedly on every side, as of nuts falling into the water or the soft mud. Tracing the sound with some care, it is found to come from the watery hollows in the mud occupied by the concha prieta, and is presumably made by the sudden closing of its valves under water by the mollusk. This species, though inferior to some other shellfish of the region, is the one most commonly eaten.

Distribution.—From Cedros Island, west coast of Lower California, in mangrove swamps and muddy places, south to Peru.

Shell oval, turgid, oblique, the hinge line subauriculate, with numerous radiating ribs, armed, especially in front, with scattered tubercles; surface covered with a dense, pilose periostracum in life, the shell beneath white and porcellanous; ligamental area narrow, umbones adjacent.

This very common shell somewhat resembles *A. secticostata* Reeve, of the Florida coast.

ARCA (SCAPHARCA) LABIATA Sowerby.

Arca labiata Sowerby, Proc. Zool. Soc. of London for 1833, p. 21.—Reeve, Conch. Iconica, *Arca*, 1844, pl. 1, fig. 7.

From the flats at Capon.

Distribution.—From San Diego, California, south to Peru.

Shell very small, but having the aspect of *Arca grandis* in miniature. Without close inspection it would be taken for the young of that species. It has no economic importance.

GLYCYMERIS INÆQUALIS Sowerby.

Pectunculus inæqualis Sowerby, Proc. Zool. Soc. of London for 1832, p. 196 (not of Zool. of Beechey's Voy., 1839, pl. 32, fig. 3).—Reeve, Conch. Icon., *Pectunculus*, pl. 4, fig. 16.

Dredged in 5 fathoms, Sechura Bay, west of Matacaballa.

Distribution.—Gulf of California to Sechura Bay, Peru.

Shell subcordate, solid, heavy, with obtuse radial ridges; lilac gray or white with four or five broad rusty or blackish transverse bands, irregularly disposed; interspaces of the ribs striated; ligament short and a very small part of it behind the umbones.

This species is rare and too small to have any economic value.

GLYCYMERIS OVATA Broderip.

Pectunculus ovatus Broderip, Proc. Zool. Soc. of London for 1832, p. 126.—Reeve, Conch. Icon., *Pectunculus*, 1843, pl. 1, fig. 2.

Dredged in Callao Bay, near San Lorenzo Island.

Distribution.—Coquimbo, Chile, northward to the Lobos Islands, Peru, in 17 fathoms.

Shell obovate, convex, smooth, white, with fine transverse lines; the umbones pale chestnut, the interior white with a crenate margin. Periostracum thin, velvety, olive brown.

This species has no economic value and is rather uncommon.

ALIGENA COKERI, new species.

Plate 28, figs. 5, 6.

Attached to worm tubes thrown upon the beach of the lagoon at Capon, Peru. The worms live in the beach. The tubes resembled those of *Chætopterus.*

Shell small, white, thin, very fragile, tumid, more or less medially constricted; beaks full, high, closely adjacent, slightly anteriorly twisted and somewhat in advance of the middle of the shell; valves rounded quadrate, with a wide shallow furrow or constriction extending from the vicinity of the beaks to the middle of the base; ends rounded, base mesially excavated; sculpture consisting of concentric incremental lines and sparser, little-elevated, concentric threads;

the surface seems very liable to injury with resulting irregularities and depressions not normal to the shell; ligament strong, internal, its surface with a slight limy coat not consolidated into a lithodesma; hinge line edentulous, with a small callosity immediately in front of the ligament; pallial line entire, faint; interior of the valves white and smooth.

The type (Cat. No. 207759, U.S.N.M.) measures: Length, 7.5; height, 6.5; diameter, 6.5 mm.

Species of this genus exist on the east coast of the United States, and in the southern Tertiaries from the Eocene up; but this is the first time it has been recognized from the Pacific coast of the Americas. The present species is very similar to the *A. æquata* Conrad, of the Virginia Miocene. It is named for Mr. R. E. Coker.

DIPLODONTA (FELANIELLA) ARTEMIDIS, new species.

Plate 28, fig. 8.

On the "inside" or lagoon beach at Capon, in the sand.

Shell small, rather compressed, suborbicular, slightly inequivalve, the posterior side shorter; white with a polished yellowish periostracum and concentric sculpture, recalling in miniature that of *Dosinia dunkeri;* beaks small, pointed, slightly prosocœlous, adjacent; anterior end evenly rounded; posterior end slightly subtruncate, straighter, a little produced near the base, which is evenly arcuate; ligament strong, somewhat sunken; hingeplate excavated; teeth two in each valve, the anterior in the left and the posterior in the right valve larger and bifid; pallial line entire, margin simple, muscular scars small. Length, 12.0; height, 11.5; diameter, 6.0 mm.

This form has a rather unusual sculpture and polish for a *Diplodonta*, the yellowish periostracum is slightly zoned with pale gray. It has, like other shells of its size, no economic relations.

Type-specimen.—Cat. No. 207758, U.S.N.M.

CHAMA PELLUCIDA Broderip.

Chama pellucida Broderip, Trans. Zool. Soc. of London, vol. 1, 1835, p. 302, pl. 38, fig. 3.

On the shore rocks at the island of Lobos de Afuera, and at Matacaballa, Sechura Bay, Peru.

Distribution.—From California south to Chile and Juan Fernandez Island.

Shell coarse, irregular, variable in form, adherent by the whole of one valve to rocks or other objects; rounded, the valves more or less subspiral; white with occasional reddish streaks on a subtranslucent ground; white within, with a crenulated margin; the exterior rude or rough, often much eroded, sometimes lamellose under favorable conditions of growth, reaching 2 inches in diameter, but having no economic value.

CARDIUM PROCERUM Sowerby.

Cardium procerum Sowerby, Proc. Zool. Soc. of London for 1833, p. 83; Conch. Ill., vol. 1, 1840, pl. 50, fig. 23.

A fragment was collected at the island Lobos de Afuera.

Distribution.—Cedros Island, Lower California, south to Paita, Peru.

Only a fragment was collected, and it is probably rare on the Peruvian coast.

DOSINIA DUNKERI Philippi.

Cytherea dunkeri Philippi, Abb. und Beschr. neue Conch., vol. 1, 1844, p. 4, pl. 2, fig. 9.—Sowerby, Thes. Conch., *Artemis*, pl. 140, fig. 5.

From a tidal lagoon at La Boca Grande, Tumbes.

Distribution.—Head of the Gulf of California and southward to Tumbes, Peru, and the Galapagos Islands.

Shell suborbicular, rather tumid, strong, and glossy, of a yellowish-white color, with moderately distant concentric sulci, the interspaces almost lamellar at the extremities of the shell; a few radiating very feeble striæ near the ends of the shell; lunule sunken, cordate; beaks not prominent; the greatest length is on a vertical line from the beaks.

The soft parts are small for the size of the shell and, though eaten by the natives of the Gulf of California, the shell is not sufficiently common to have an economic value.

TIVELA PLANULATA Broderip and Sowerby.

Plate 28, fig. 9.

Cytherea planulata Broderip and Sowerby, Zool. Journ., vol. 5, 1829, p. 48.—Sowerby, Thes. Conch. *Cytherea*, 1851, pl. 127, fig. 13.

Matacaballa, Sechura Bay.

Distribution.—Gulf of California and southward to Coquimbo, Chile.

MACROCALLISTA (PARADIONE) PANNOSA Sowerby.

Cytherea pannosa Sowerby, Proc. Zool. Soc. of London for 1835, p. 47; Thes. Conch., 1851, pl. 133, figs. 140–142; pl. 163, figs. 202–203.

Dredged in Sechura Bay, west of Matacaballa, in about 5 fathoms.

Distribution.—Cape St. Lucas, Lower California, southward to Valparaiso, Chile.

Shell small, polished, compressed, obovate, solid, smooth, yellowish, variously painted with brown lines, spots, or streaks; beaks rather prominent; the interior of the shell white, the margins entire.

This little shell in some localities is quite common; in the Gulf of California the dead valves occur in heaps on the beaches, but it is too small to have any economic value, averaging only about an inch in length. It is attractive on account of its pretty and varied colors.

CHIONE ASPERRIMA Sowerby.

Venus asperrima SOWERBY, Proc. Zool. Soc. of London for 1835, p. 42; Thes. Conch. *Venus*, 1853, pl. 155, figs. 57–58.

From the shell heaps at Huaquilla and Matapalo. Common in some localities, especially shelly beaches. "Concha tabaco" of the fishermen, who do not like it, saying it has the flavor of tobacco.

Found associated with the *Anomalocardia.*

Distribution.—Gulf of California southward to the Lobos Islands, Peru.

Shell rounded triangular, moderately tumid, whitish or grayish, with fine, rough, reticulate sculpture; in favorable localities with brown or livid varied painting on a lighter ground; lunule ovate, depressed, whitish.

This shell is recognizable by its rasp-like surface and long anterior cardinal tooth.

CHIONE COMPTA Broderip.

Venus compta BRODERIP, Proc. Zool. Soc. of London, for 1835, p. 43.—SOWERBY, Thes. Conch. *Venus*, 1853, pl. 154, figs. 32–34.

Beach of Sechura Bay, near Matacaballa.

Distribution.—Gulf of California and southward to the Galapagos Islands and Sechura Bay, Peru.

Shell closely resembling *Chione cancellata* of the Atlantic coast, but flatter, more spread at the sides where the radiating threads are divergent, and the concentric sculpture is more laminar and less reflected; the latter is apt to be crowded, ventrally, in senile examples. The shell is white, rounded trigonal, solid, and heavy, with radiating rounded threads and concentric more or less distant lamellæ. The internal margins are crenulate, and the shell rarely exceeds 30 mm. in length. It is too small and not sufficiently abundant to have an economic value.

ANOMALOCARDIA SUBRUGOSA Sowerby.

Plate 26, fig. 3.

Venus subrugosa SOWERBY, Genera of Shells, 1834, fig. 2.

Conchas de los bajos. Near Capon, at the oyster beds of Matapalo, there is along the border of the mangrove swamp a shelly bank about 25 meters wide. From this thousands of these shells may be taken in a short time. They are esteemed as food by the fishermen. They were also taken at Lancha de Fierro, at the mouth of the Tumbes River, and in the tidal lagoon La Boca Grande, at Tumbes; and the dead shells occur in the shell heaps at Huaquilla, on the Ecuador border.

Distribution.—From the Gulf of California to Valparaiso, Chile.

Shell ovate, subcordate, very tumid, thick and solid, the ventral edge much arcuated; color pale, with three or four dark rays; a few large, coarse, smooth, rounded and concentric ribs which become obsolete on the anterior slope and toward the ventral edge; lunule cordate, limited by an impressed line; inner margins crenated; length about 35 mm.

CYRENA ISOCARDIOIDES Deshayes.

Plate 26, fig. 4.

Cyrena isocardioides DESHAYES, Proc. Zool. Soc. of London for 1854, p. 22.—PRIME, Smiths. Misc. Coll. No. 145, 1865, p. 25.

Llurona. Tumbes region, from the Estero Bendito. West Colombia, Deshayes.

These shells were found in some numbers barely covered by the muddy sand and rather high above low-water mark. The animal contains such a quantity of salt water as to be very unpalatable, even if the flesh be repeatedly punctured while roasting.

Shell much inflated, rounded trigonal, cordate, thin; anterior end evenly rounded; posterior side obliquely declining, subtruncate at the extremity; surface smooth except for incremental lines; periostracum thin, velvety, of an olivaceous brown; beaks large, swollen, incurved; shell white with faint violet streaks; hinge plate very narrow, teeth small, nearly equidistant from the cardinals; valves white inside, with sometimes a little violet near the margins, which are entire. Pallial line entire, without the sinus found in other American Cyrenas.

DONAX ASPERA Hanley.

Plate 28, fig. 7.

Donax asper HANLEY, Proc. Zool. Soc. of London for 1845, p. 14.—SOWERBY, Thes. Conch., vol. 3, 1862, p. 307, pl. 1, fig. 24.

Almejas. Found at the sand beach of Santa Lucia, mouth of the Tumbes River. A small but esteemed comestible, abundant on many beaches.

Distribution.—Central America and southward to Tumbes, Peru.

Shell triangular, wedge shaped, small, solid, white or purple; radiately striate in front; on the short posterior side granulated near the angle of the truncation; behind the angle striated; posterior ventral margin denticulate; posterior area convex below, concave above; beaks elevated, the anterior dorsal slope steep.

The color, as in most donaces, is very variable. On the Lower Californian coast shells of this genus, even smaller than *D. aspera*, are washed, thrown, shells and all, into hot water, boiled until the juice is extracted and then strained out, leaving a clear broth of which the flavor is highly praised.

IPHIGENIA ALTIOR Sowerby.

Plate 25, fig. 8.

Capsa altior SOWERBY, Proc. Zool. Soc. of London for 1832, p. 96.—ROEMER, Mon. *Donax*, 1869, p. 114, pl. 21, figs. 1-4.

Playeras. From the flats at Capon, 4 to 6 inches deep in the sand, and from a tidal lagoon at La Boca Grande, Tumbes.

Distribution.—Gulf of California and southward to Tumbes, Peru.

Shell subtriangular, oblong, arcuate, pale green or rosy under an olive periostracum, internally violet; posterior dorsal margin sloping, rounded at the end; in front subtruncate; ventral edge rounded behind, in front somewhat flexuous; umbones blackish; the internal margins not crenate.

There is no record as to the edibility of this species.

TELLINA (ANGULUS) EBURNEA Hanley.

Plate 28, fig. 3.

Tellina eburnea HANLEY, Proc. Zool. Soc. of London for 1844, p. 61; Mon. *Tellina* in Thes. Conch., 1846, p. 241, pl. 58, fig. 91.

From the flats at Capon.

Distribution.—Gulf of California and southward to Paita, Peru.

Shell small, oblong, compressed, opaque white, glossy, inequilateral, with strong concentric sulci which usually are more feeble in one of the valves; and which become closer and the interspaces sublamellose on passing the flattened area at the upper edge of the more convex valve; posterior end shorter, subcuneiform, anterior edge straight, then rounded down to the base; ligament short and prominent; fold almost obsolete; inside pure white.

An inconspicuous species, not known to have any economic value.

TAGELUS (MESOPLEURA) DOMBEYI Lamarck.

Plate 27, fig. 3.

Solen dombeii LAMARCK, Anim. s. Vert., vol. 5, 1818, p. 454; Encycl. Méth., pl. 224, fig. 1.

Navaja. Taken in sand, under 3 or 4 feet of water, at Chilca Bay, Peru. Used as food, but apparently does not occur abundantly.

Distribution.—From the island of Chiloë northward to Tumbes, Peru.

Shell elongate, parallel-sided, the ends rounded; covered with a dull olivaceous periostracum, white or purplish with an obsolete white ray; beaks subcentral, the ends of the shell gaping slightly; the base with its margin in the middle somewhat concave. Hinge with two inconspicuous cardinal teeth.

SEMELE SOLIDA Gray.

Plate 28, fig. 10.

Amphidesma solidum GRAY, Spicilegia Zoologica, 1828, pl. 6, fig. 6.—HUPÉ, in Gay, Hist. de Chile, vol. 8, 1854, p. 359, pl. 7, fig. 1.

Concha blanca. Bay of Chilca, 30 miles south of Callao.

Distribution.—Chonos Archipelago and northward to Callao, Peru.

Shell thick, solid, suborbicular, compressed, with concentric grooves and delicate radiating striæ; somewhat wrinkled distally; a touch of purple on the hinge margin; ligament internal; lunule minute, lanceolate; cardinal teeth very slender. Not of economic importance.

MESODESMA DONACIUM Lamarck.

Plate 27, fig. 1.

Mactra donacia Lamarck, Anim. s. Vert., vol. 5, 1818, p. 479.—Chenu, Man. de Conchyl., vol. 2, 1862, p. 79, fig. 341.

Almejas. Ancon. Used for food and bait. Seen not infrequently but irregularly in the market. Also obtained at Mollendo and Sechura Bay.

Distribution.—Whole Peruvian province, from Valparaiso north to Sechura Bay.

Shell white, solid, covered with a straw-colored periostracum; smooth or concentrically obscurely striated; wedge shaped, very inequilateral; shorter end subtruncate, longer end compressed, rounded, much produced.

This is the type of the genus *Mesodesma*.

SAXICAVA SOLIDA Sowerby.

Saxicava solida Sowerby, Proc. Zool. Soc. of London for 1834, p. 88; Thes. Conch., vol. 4, 1884, p. 133, pl. 471, fig. 12.

Taken from the rocks at north end of the water front at Callao, and from nullipores dredged in 5 fathoms, in Sechura Bay, west of Matacaballa.

Distribution.—From Guayaquil to the Straits of Magellan, boring in soft material.

Shell small, irregular, mostly subcylindrical, distally blunt or subtruncate, chalky, covered with a straw-colored periostracum.

MARTESIA CURTA Sowerby.

Pholas curta Sowerby, Proc. Zool. Soc. of London for 1834, p. 71; Thes. Conch., vol. 1, 1849, p. 494, pl. 104, figs. 33, 34; pl. 108, fig. 105.

Boring in driftwood on the mud flats of La Pampa, mouth of the Tumbes River, Peru.

Distribution.—Almost world-wide in the tropics; boring in floating timber; West Indies, Panama, Ecuador, and Peru.

Shell oval, pointed behind, rounded in front; valves divided by a transversely grooved band; the anterior area obliquely divided in the adult, the dorsal portion with radiating wrinkles and transverse striæ, the ventral thinner and inflated, only filling the anterior wide gape when the shell is mature; posterior part of the valves concentrically striated; an accessory piece over the beaks on the back of the shell, pointed distally and contracted in the middle; posterior gape covered with a horny cuticle.

These small borers, except as helping to disintegrate sunken driftwood or wrecks, seem to have no economic importance.

XYLOTRYA DRYAS, new species.

Plate 25, figs. 2, 3, 5, 6, 7.

From the stem of a living mangrove at Estero del Palo Santo, Tumbes, Peru.

As a rule, animals belonging to this family excavate their burrows in dead wood, not living trees, though the African mangrove of Senegal is bored in the living state by a true *Teredo*, which received the name of *T. senegalensis* from Blainville. The present species so far as noted is the first to be reported from living trees in America, and the first of the genus *Xylotrya* known to have this habit.

The external surface of the valves, beginning in front, is divided into five areas, of which the first might perhaps be regarded as internal rather than external, though when the muscles are removed it faces outward. It is in reality a myophoric surface, free from periostracum and in life supports very powerful muscles, which hold the two valves together; the surface of this area is rather irregular, the dorsal extremes of the area in the two valves project in blunt points; this area is separated from what is generally called the anterior area of the valves by a deep sulcus, the posterior slope of which terminates in a rounded bounding ridge; the anterior area proper is concentrically sculptured by regular, low, sharp, equally spaced, fine lamellæ with slightly wider interspaces; these are crossed by extremely sharp, fine, close, microscopic, radial striæ; the vertical width of this area is a little more than the width of the premedian area; the sculpture changes abruptly at the junction of the two areas and the angle at the junction of their ventral margins, as of the sculpture, is about 97°. The premedian area is similarly sculptured, but the lamellæ are rather smaller and more close set than in the anterior area, while the radial striæ are coarser and deeper, showing distinctly on the tops of the lamellæ. The postmedian area is feebly concentrically striated, covered with a thin glossy periostracum and more or less brown stained by the mangrove sap; it is separated from the posterior lobe by an angle; the posterior lobe or area is similar in surface and forms somewhat less than a semicircle, low and evenly rounded. The two valves are held together by strong muscles, chiefly attached to three myophoric areas. The first of these, anterior and looking outward and forward, has been described; the second forms an irregular concavely excavated rough surface extending from the anterior sulcus to the angle between the postmedian and posterior lobes of the shell. This surface includes much of the dorsal edges of the original valves, and when the muscles are removed the appearance is as if the valves have been badly eroded, but the condition is the same in the youngest valves I have been able to examine, and if, as seems evident, a considerable portion of the umbonal surface is missing, it has unquestionably been removed by absorption, and not by external erosion. The styloid processes are broad and long, extending nearly to the nodules on the inside of the ventral points of the valves. They spring from a thick reinforcement of the hinge line, simulating a hinge plate, and they have nothing to do with the muscular system, but, as in the Pholads, are buried within the mass of the body and are probably of use in supporting the internal organs against the violent shocks resulting from its boring operations. From the posterior end of the "hinge plate" to a point on the margin of the valves corresponding to the angle between the postmedian and posterior areas, extends in the adult a broad septum in each valve, continuous on its inner edge with the margin of the valves and on the opposite edge free, with a recess behind it equal in depth to about half the whole width of the septum. The surfaces of these two plates form the third myophoric area above referred to and carry a relatively immense mass of muscular fibers uniting and holding closed the two valves and counteracting the action of the muscles massed on the exterior myophores. In other words, these muscles correspond to adductors of ordinary bivalves as regards their function, while the external muscles operate like a ligament. The nodules on the inside of the distal or ventral ends of the valves are of a rather unusual shape, subcylindrical and blunt at the opposed ends, rapidly cuneate at the proximal ends. The type, an adult shell, (Cat. No. 207695 U.S.N.M.), measures dorsoventrally 20, in length 19, and transverse diameter 19 mm. The soft parts, in alcohol, of this specimen were about 8 inches (20 cm.) in length. The pallets, set rather far back from the siphonal ends, measured about 45 mm. in length, of which 25 mm. is smooth cylindrical stalk, the remainder being vane, of which the mass is set on the stalk inequilaterally, the segments being closely crowded with a serrate profile, and pretty well covered by a thin brownish periostracum which passes over the segments on the back without interruption for the interspaces. The width of the vane is about 5 mm. near the base, gradually narrowing to a point at the tip.

It is somewhat odd that, in comparing the shell of this species with that of other Teredinidæ, the most similar shell found was not that of any *Xylotrya*, but a shell belonging to another genus, the *Teredo norvegica* of Spengler. From this the valves of *X. dryas* differ in having the posterior area axially longer, the postmedian shorter, the premedian wider, and the anterior about the same proportion. The styloid processes are longer; between the root of the process and the anterior end of the thickening I have for convenience called a "hinge plate," there is a small but prominent denticle which I have not found in any other species.

It is not improbable that this species may be confined to the mangroves and not attack dry wood; if so this would account for the form not being reported before.

BULLARIA PUNCTULATA A. Adams.

Bulla punctulata A. Adams, Thes. Conch., vol. 2, 1850, p. 604, pl. 123, fig. 77.
Lobos de Afuera Island. One dead specimen.

Distribution.—From Cape St. Lucas, Lower California, and the Gulf of California, southward to Pacasmayo, Peru, and the Galapagos Islands.

Shell oval, involute, solid, with a marbling and punctate painting of reddish brown; surface smooth, length about 25 mm.

SIPHONARIA (LIRIOLA) LESSONI Blainville.

Siphonaria lessoni Blainville, Dict. Sci. Nat., vol. 32, 1824, p. 267, pl. 44, fig. 2.
From rocks at north of water front, Callao. One specimen.

Distribution.—Straits of Magellan northward to Callao, Peru.

Shell patelliform, erect, the apex rather sharp, recurved; surface feebly radially striate; of a brownish-olive color. Margin entire. Interior brown, polished, the muscular scar interrupted for the passage of the siphon.

This is a very common species, of no economic value, frequently found among true marine limpets on rocks between tide marks. It has been frequently confounded with the *S. tristensis* of Sowerby from Tristan d'Acunha Island in the Atlantic Ocean.

BULIMULUS HENNAHI Gray.

Bulimulus hennahi Gray, Spicilegia Zool., vol. 1, 1828, p. 5, pl. 5, fig. 5.
Snails from the hills of San Gallan Island, near Pisco, Peru; 1,200 to 1,368 feet above the sea. The lower parts of the island are arid, but the higher parts derive sufficient moisture from the clouds to support a good deal of vegetation and these snails.

Distribution.—Arica, Tacna, and San Gallan Island, Peru.

Shell oval, subacuminate, solid, rather rude, with irregular feeble axial rugosities; color pinkish white, with pink apex, and about seven whorls, the last about equal to the spire, moderately rounded. Aperture ovate,, purplish inside, pillar straight; peristome simple, acute; a small umbilical perforation behind the expanded posterior part of the pillar. Length about 27 mm.

These snails have no economic value.

BULIMULUS COKERIANUS, new species.

Plate 23, fig. 3.

Snails from the peaks of Vieja Island, Independencia Bay, at about 1,200 feet elevation.

Shell small, thin, conical, with about eight whorls separated by a distinct but not channeled suture; nucleus smooth, brownish, with an apical dimple and about a whorl and a half; spire above the last whorl about one-third of the total length or even less; color lilac-gray, with retractive axial streaks, more or less irregular, of purplish brown; aperture ovate, with a sharp simple peristome, a wash of enamel on the body, and a straight, thin, hardly reflected pillar; interior with the coloration shining through the shell and a faint grayish enamel; umbilicus small, deep; sculpture of incremental lines and feeble irregular rugosities. The type (Cat. No. 207700, U.S.N.M.) measures: Height of shell 27; of last whorl 19; of aperture 13.5; maximum diameter of last whorl 15 mm.

This species is most nearly approached by *B. apodematus* Orbigny, but differs constantly in its depressed spire with deep sutures, the very slight masking of the umbilicus by the expansion of the pillar, the aperture slightly more angular at the base, and the deeper and more intense coloration. It is named for the collector of the specimens.

CONUS XIMENES Gray.

Conus ximenes Gray, Zoöl. Beechey's Voy. p. 119, (pl. 33, fig. 2, 1839, as *C. interruptus* Broderip and Sowerby, Zoöl. Journ., vol. 4, p. 379, 1829; not *C. interruptus* Mawe, Conch., 1828).

Dredged in Sechura Bay, halfway between Bayovar and Matacaballa. One dead specimen.

This is the original *interruptus* of Broderip and Sowerby, as figured in Beechey's voyage. The normal *C. Ximenes*, as described, has additional brown flammules, this variety only the spiral rows of brown dots on a greenish-white ground. The spire has a very shallow channel behind the suture, but is not spirally striated like *C. purpurascens*, or granulated anteriorly as in that species. The shell is covered with a velvety periostracum, while that of *C. purpurascens* is smooth and almost polished.

OLIVA PERUVIANA Lamarck.

Plate 23, fig. 4.

Oliva peruviana Lamarck, Ann. du Muséum, vol. 16, 1810, p. 317; Encycl. Méth. pl. 364, fig. 3.

Dredged, living, in Sechura Bay, between Bayovar and Matacaballa.

Distribution.—From Valparaiso, Chile, northward to Guayaquil and the Galapagos Islands.

Shell ovate, solid, polished, whitish with irregular brown stripes, sometimes angular, sometimes axially directed. The epipodia behind, from the preserved specimens, seem to form a sort of pocket, which in life should fit over the spire of the shell.

OLIVELLA COLUMELLARIS Sowerby.

Oliva columellaris SOWERBY, Tankerville Cat., App. 1825, p. XXXIV.—REEVE, Conch. Icon. *Oliva*, 1850, fig. 62.
Beach of Sechura Bay, near Matacaballa.

Distribution.—Central American coast, Panama and southward to Paita and Sechura Bay.

Shell small, polished, spire acute, short, last whorl expanded in front, feebly axially striated; pale grayish or lead color, with a heavy whitish body callus, and usually a yellowish spiral band at the middle of the whorl and behind the suture. There is a single strong plait on the anterior edge of the pillar; interior of the aperture purple, showing one paler band. The animal, unlike that of *Oliva*, possesses a small horny operculum. These shells in prehistoric times were used as beads.

OLIVELLA SEMISTRIATA Gray.

Oliva semistriata GRAY, Zool. Beechey's Voy., 1839, p. 130, pl. 36, fig. 10.
Dredged in Sechura Bay, in about 5 fathoms, west of Matacaballa.

Distribution.—Gulf of California and southward to Sechura Bay.

This species is very similar to the last, but has a proportionately longer spire and is less compressed in front. Neither of the species has any present economic value.

MARGINELLA CURTA Sowerby.

Marginella curta SOWERBY, Proc. Zool. Soc. of London for 1832, p. 105; Thes. Conch., vol. 1, p. 397, pl. 76, figs. 88, 89.
Dredged in Sechura Bay, between Bayovar and Matacaballa; found also at the Chincha Islands and Lobos de Afuera Island.

Distribution.—From Panama southward to Iquique, Chile.

Shell small, polished, of a purplish brown, the spire very short, the aperture narrow, nearly as long as the spire, the pillar with four well-marked plaits; the surface without sculpture except faint incremental lines.

This species has no present economic value, but the prehistoric tribes ground off the apex of the spire, strung the shells on a cord, and used them for beads.

MITRA ORIENTALIS Gray.

Mitra orientalis GRAY, in Griffith's Cuvier, 1834, pl. 40, fig. 5.
Taken on rocks of beach at Ancon; one dilapidated specimen.

Distribution.—Valparaiso, north to Ancon.

Shell elongate, turrited, covered with a thick black periostracum which in drying peels off, coarsely feebly spirally striated; the last whorl longer than the spire; aperture about half as long as the shell, interior livid purple brown or whitish; pillar with three prominent plaits; no operculum. Species of no economic importance.

This species is one of a group of black *Mitras* characteristic of the west coast of the two Americas from California to Valparaiso. These shells have been generally confounded together on account of their general similarity, and the fact that specimens obtained are usually in poor condition, the periostracum at least being almost invariably defective.

SOLENOSTEIRA FUSIFORMIS Blainville.

Plate 22, fig. 3.

Purpura fusiformis BLAINVILLE, Nouv. Ann. du Muséum, Paris, vol. 1, 1832, p. 31, pl. 11, fig. 7.

Dredged in Sechura Bay, west of Matacaballa, in about 5 fathoms. Also found at the Chincha Islands on the shores.

Distribution.—From Panama southward to the Chincha Islands.

Shell ovate, turrited, ventricose, white, covered with a thick lamellose dark olive periostracum; whorls convex, carinated, tuberculous above; the tubercles elevated and compressed; aperture ovate, white; columella smooth; base narrowly umbilicated; canal short, flaring. Operculum elongate with an apical nucleus.

This shell has much similarity to the *Thais kiosquiformis*, with which it has very generally been associated. It can be distinguished by the absence of the lamellose sutural band of the *Thais* and the entirely distinct operculum.

COLUMBELLA PAYTENSIS Lesson.

Columbella paytensis LESSON, Voy. Coquille, vol. 2, 1830, pt. 1, p. 402.—SOWERBY, Thes. Conch., *Columbella*, p. 116, pl. 36, figs. 36–37.

Dredged in Sechura Bay west of Matacaballa, in about 5 fathoms. Also obtained at Lobos de Afuera Island.

Distribution.—Central American coast southward to Sechura Bay, and at the Galapagos Islands.

Shell small, stout, with a short spire and narrow aperture; whorls broadly channeled below the sutures; chestnut brown, more or less dotted with white; outer lip internally denticulated, a few tubercles on the pillar; aperture within whitish or purple; length about 25 mm.

ANACHIS RUGOSA Sowerby.

Columbella rugosa SOWERBY, Proc. Zool. Soc. of London, for 1832, p. 115.—KIENER, Icon., *Columbella*, 1839, p. 46, pl. 16, fig. 4, 1839 (as *C. bicolor* Kiener).

On oysters, at Matapalo, near Capon.

Distribution.—Gulf of California southward to Paita, Peru.

Shell small, ovate, tuberculate, plicate or rudely ribbed axially, the ribs only developed on the upper half of the body whorl; whole surface with revolving striæ; spire acute, shorter than the body whorl; color white, gray, or olivaceous, with chocolate clouding especially on the back of the body whorl, which is sometimes nearly all chocolate colored; length 18 mm.

These small shells have no economic value in themselves; but they drill the very young oysters when about 10 mm. in diameter, pierce the thin shell, and suck the juices of the animal. If very numerous they might be a serious detriment to the maintenance of growing oysters.

ASTYRIS UNICOLOR Sowerby.

Columbella unicolor SOWERBY, Proc. Zool. Soc. of London for 1832, p. 119.—REEVE, Conch. Icon., *Columbella*, pl. 19, fig. 105.

Dredged in Callao harbor, in 2½ fathoms, near San Lorenzo Island.

Distribution.—From Chiloë Island northward through Chile, Peru, and the Galapagos Islands.

Shell very small, ovate, smooth with revolving striæ near the canal; color chocolate or chestnut brown, with or without a lighter band revolving on the periphery; aperture brownish within; outer lip and pillar with a few obscure denticles in the adult; length about 12 mm.

This small shell, remarkable for its wide geographic range, has no economic relations.

ALECTRION (HIMA) DENTIFERUS Powys.

Nassa dentifera POWYS, Proc. Zool. Soc. of London for 1835, p. 95.—ORBIGNY, Voy. Am. Mér., vol. 5, 1841, p. 432, pl. 61, figs. 22–23.

Dredged in about 9 fathoms, muddy bottom, in Ancon Bay.

Distribution.—Coasts of Chile and Peru, from Valparaiso northward to Panama.

Shell small, turrited, rather thin, obscurely reticulately sculptured, chocolate brown, inside and out, with occasionally a paler peripheral spiral band; outer lip sharp, thin, in the adult having an obscure varix behind it; the sculpture variable in strength; length 20 mm.

This small and unattractive species has no economic importance.

CONCHOLEPAS CONCHOLEPAS Bruguière.

Plate 22, fig. 1.

Buccinum concholepas BRUGUIÈRE, Encycl. Méth., 1789, p. 252.—DILLWYN, Rec. Sh., vol. 2, 1817, p. 611.

Concholepas peruvianus LAMARCK, An. s. Vert., vol. 7, 1822, p. 252.—TRYON, Man. Conch., vol. 2, 1880, p. 199, pl. 162, figs. 314–316.

Pata de burro, of the southern region. Common on some of the rocks some yards from shore and at or below low-water line.

Distribution.—Chincha Islands. Mollendo, and south to the Magellanic region. Also northward, according to E. von Martens, to the west coast of Mexico.

Shell large, rude, with spiral imbricated sculpture, the spire so reduced that the last whorl appears like a large rounded limpet; the color brownish. Inside white, polished, the margin more or less crenulated, and produced toward the anterior edge into two or more projecting denticulations. There is an operculum, but too small to close the aperture, into which the animal can barely withdraw. The shell may reach a length of 80 mm. or even more. It lives seated on rocks like a limpet, though closely related to the genus *Thais*.

Mr. Coker in his notes mentions that this species is sometimes eaten, but not esteemed.

THAIS CHOCOLATA Duclos.

Plate 22, fig. 2.

Purpura chocolata Duclos, Ann. Sci. Nat., vol. 26, 1832, p. 108, pl. 2, fig. 7.

Caracoles. Callao Bay, shore to 2½ fathoms, and on the shore of San Lorenzo Island. This form is commonly sold in the markets, after being removed from the shell.

Distribution.—From Valparaiso, Chile, northward to Paita, Peru.

Shell large, solid, with a short spire and very large body whorl often carinated and more or less tuberculate at the shoulder of the whorl; exterior chocolate color, the aperture within bluish or yellowish, the pillar orange colored; the shell when weathered, as many specimens are, becomes of a grayish color and is frequently more or less eroded. Operculum large with a lateral nucleus; the length of the shell sometimes reaching 3½ inches.

The word "caracoles" seems to be applied by the fishermen to any species of *Thais* or *Solenosteira*, and the general remarks as to edibility, etc., are probably referable to all the Peruvian species of these groups.

THAIS CRASSA Blainville.

Purpura crassa Blainville, Nouv. Ann. du Muséum, vol. 1, March, 1832, p. 241, pl. 12, fig. 4.

Purpura melones Duclos, Ann. Sci. Nat., vol. 26, May, 1832, p. 105, pl. 1, fig. 2.

Purpura melo Reeve, Conch. Icon., *Purpura*, 1846, pl. 4, fig. 17.

Callao, taken in fish-net near San Lorenzo Island.

Distribution.—Panama south to Callao and the Galapagos Islands.

Shell resembling that of the last species, but destitute of tubercles and only half as large; chestnut variegated with white, especially anteriorly; the pillar tinged with pink, the inner edge of the outer lip frequently marginated with black.

THAIS CALLAOËNSIS Gray.

Purpura callaoënsis Gray, Spicilegia Zool., vol. 1, 1828, p. 4, pl. 6, fig. 11.—Reeve, Conch. Icon., *Purpura*, 1846, fig. 79.

Lobos de Afuera Island, among stones at low water.

Distribution.—Panama and southward to Callao, Peru, and the Galapagos Islands.

Shell small, white or pale brownish inside and out, of the same general form as the last species; smooth, or faintly striated; length about 25 mm.

This is not the *P. callaoënsis* of Blainville, 1832. It is too small a shell to have much economic importance and does not seem to be abundant. Tryon referred it wrongly to the genus *Coralliophila*, probably from figures or worn specimens; but it is quite destitute of the peculiar sculpture of *Coralliophila*.

THAIS DELESSERTIANA Orbigny.

Purpura delessertiana Orbigny, Voy. Am. Mér., vol. 5, 1841, pp. ix, 439, pl. 77, fig. 7.

Caracolitos. Callao Bay, on the shores of San Lorenzo Island; on the Callao water front; and common on the shore rocks at the Chincha Islands.

Distribution.—Cedros Island, west coast of Lower California, and southward to the Chincha Islands.

Shell of the same general shape as *T. chocolata* Duclos, but smaller, thinner, with a smoother and more polished surface, the shoulder of the whorls more sloping and less prominently tuberculose, or without tubercles; general color brownish, usually with one or two paler, narrow, spiral bands on the last whorl; length about 50 mm.

This is *Purpura callaoënsis* Blainville, 1832, not of Gray, 1828.

THAIS KIOSQUIFORMIS Duclos.

Plate 22, fig. 4.

Purpura kiosquiformis Duclos, Ann. d'Hist. Nat., May, 1832, pl. 1, fig. 5.—Kiener, Icon., *Purpura*, p. 59, pl. 15, fig. 40.

Caracoles. Mouth of the Tumbes River. Also from the oysters of Matapalo, growing on the mangrove shoots. Near Capon, from the Estero Zarumilla, opposite Estero Cascajal.

These oyster drills are of importance economically as being a serious enemy to the young oysters. Also as of use in making a purple dye which is considered permanent. It is said that this forms a small industry in Ecuador. The purpuriferous gland is extracted and mixed with lemon juice to prepare the dye. The flesh of the animal is also preserved for food.

It is said to be customary to take thread from the region of Sechura and Piura to Guayaquil, to be dyed and returned, when it is used in fancy alforjas and other hand-woven articles. The dyed thread is called "hilo de caracoles" by the natives.

I saw a neat alforja hand-woven chiefly from hand-spun thread. It was in four colors: Natural white cotton and natural brown cotton, the purple hilo de caracoles, and an imported thread.

These drills were commonly found (Jan. 23) in pairs, breeding. Their destructive work on the young oysters is erroneously attributed by the local fishermen to an isopod, which is found boring into the mangrove roots.

Distribution.—From Magdalena Bay, Lower California, south to Tumbes, Peru.

Shell turrited, whorls more or less tabulate above the shoulder, in front of which there are one or two strong, more or less tuberculose or angulate keels; the whole shell spirally threaded, with an axially lamellose band appressed at the suture; shell white with an olivaceous periostracum, the threads sometimes brownish, and the interior of the aperture sometimes spirally brown threaded; pillar without plaits, the operculum with a lateral nucleus. Length about 36 mm.

Specimens prepared for market by breaking off the greater part of the last whorl were also sent in by Mr. Coker. This species has been widely confused with *Cymia* (or *Cuma*) and *Solenosteira*. From the first it may be known by the absence of the strong plait or keel in the middle of the pillar, and from the second by its laterally nucleated operculum and the lamellose sutural band.

Several other species of *Thais* have been used since prehistoric times by the natives of Central America as a source of purple dye. The most commonly used species there is *Thais* (*Patellipurpura*) *patula* Linnæus. Many years ago the writer, at San Juan del Sur, Nicaragua, stained a handkerchief with the unmixed purple from one of these shells. Perhaps because lemon juice or other mordant was lacking the color faded considerably during three years that the handkerchief was kept, and the color was not at any time brilliant, resembling the water color known as "neutral tint." Señora Zelia Nuttall, of Mexico City, well known for her profound ethnological researches, has recently read a paper before the American Association for the Advancement of Science on the prehistoric use of these Molluscan purples in Mexico and Central America.

BURSA VENTRICOSA Broderip.

Ranella ventricosa Broderip, Proc. Zool. Soc. of London for 1832, p. 178.—Sowerby, Conch. Ill., *Ranella*, 1839, pl. 92, fig. 116.

Ranella tenuis Potiez and Michaud, Galerie de Douai, Moll., vol. 1, 1837, p. 426, pl. 34, figs. 1, 2.

Dredged in Callao Bay, in about 2½ fathoms, near the northeast side of San Lorenzo Island. Also sold in Callao market, among other gastropods, under the name of Caracoles.

Distribution.—Nicaraguan coast and south to Callao, Peru.

Shell thin, whitish, obscurely rugosely sculptured or smooth, with lateral varices, a large aperture, with thickened and varicose outer lip, with a wide and deep canal near the junction of the lip and the body whorl.

CYMATIUM VESTITUM Hinds.

Triton vestitus Hinds, Zool. Sulphur's Voy., Moll., p. 11, pl. 4, fig. 1, 1844.

Chincha Islands, among the rocks.

Distribution.—West coast of Central America and southward to the Chincha Islands, Peru.

Shell rather large, thin, with a moderately elevated spire and strong spiral ribs; surface covered with a dense lamellose periostracum more or less produced in thread-like filaments; aperture large, lirate on the body callus and denticulate on the varicose outer lip, the denticles more or less painted with black streaks and associated in separate pairs.

This species is rare and without economic importance.

CYPRÆA ANNETTÆ Dall.

Cypræa annettæ DALL, Nautilus, April, 1909, p. 125.

Cypræa sowerbyi KIENER, Icon., *Cypræa*, 1845, p. 38, pl. 7, fig. 3. Not *C. sowerbyi* of GRAY, 1832; or ANTON, 1839.

Beach of Sechura Bay, near Matacaballa, one badly worn specimen.

Distribution.—Gulf of California and southward to Paita and Sechura Bay, Peru.

This species has no economic relations.

CERITHIUM STERCUSMUSCARUM Valenciennes.

Cerithium stercusmuscarum VALENCIENNES, Humboldt Voy., vol. 2, 1833, p. 278.—SOWERBY, Thes. Conch., 1855 (as *C. ocellatum*), p. 865, pl. 179, figs. 59, 73.

From the shell bank at Matapalo near Capon. Occurs in great abundance on shelly ground, but is of no economic importance.

Distribution.—From Cedros Island, Lower California, and the Gulf of California, southward to Panama, Tumbes, and the Galapagos Islands.

TURRITELLA GONIOSTOMA Valenciennes.

Turritella goniostoma VALENCIENNES, Humboldt Voy., vol. 2, 1833, p. 275.—REEVE, Conch. Icon., *Turritella*, 1849, fig. 10, a–b.

Island of Lobos de Tierra, one young shell.

Distribution.—Gulf of California and southward to Paita, Peru, and the Lobos Islands.

Shell slender, elongated, with many flat-sided, spirally threaded, purple and brownish whorls. Aperture subcircular. Length of a full-grown specimen about 75 mm.

This shell, though common, has no economic importance.

LITTORINA PERUVIANA Lamarck.

Plate 23, fig. 7.

Phasianella peruviana LAMARCK, Anim. s. Vert., vol. 7, 1822, p. 53.—WOOD, Index Test. suppl., 1828, pl. 6, fig. 33 (as *Turbo zebra*).

From rocks on the shores of Callao Bay and San Lorenzo Island. Also on the Chincha Islands in similar places, and along shore at Mollendo. Here some of these snails were taken far above the water line.

Distribution.—From Panama and the Galapagos Islands south to Valparaiso.

Shell small, conical, turbinate, with a corneous operculum of few whorls; the color black with large oblique blotches or streaks of pure white; aperture simple, semilunate without denticulation, and the base without umbilicus.

These pretty little black and white snails are phytophagous, and too small to be of use for food, yet they form one of the most widely and commonly distributed and characteristic species of the Peruvian province.

LITTORINA VARIA Sowerby.

Littorina varia SOWERBY, Genera of Shells, fascic. 37, 1832, fig. 3.—PHILIPPI, Abb. und Beschr., vol. 2, *Littorina*, pl. 1, figs. 2, 3.

Near Capon, oyster beds of Matapalo; found crawling high on the branches of the mangroves, where they are extremely common in the mangrove swamps.

Distribution.—Gulf of California and southward to Peru.

Shell larger and proportionately thinner than the preceding species, spirally threaded, of a pale purple, grayish, or brownish color more or less articulated, streaked, or dotted with darker shades.

This species is large enough to be eaten like the English "periwinkle," but no data to the effect that it is actually so used have come to hand.

CRUCIBULUM IMBRICATUM Sowerby.

Calyptræa imbricata SOWERBY, Gen. Shells, fascic. 23, 1824, *Calyptræa*, fig. 5.

Dredged in about 5 fathoms, west of Matacaballa, in Sechura Bay, Peru.

Distribution.—Gulf of California, and southward to the Galapagos Islands and Valparaiso, Chile.

Shell conical, irregularly marginate, according to the object upon which it is seated, of a brownish color, with emphatic radial appressed imbrications and deep interstices, the interior purplish brown or yellow, with a thin internal cup-like process attached on one side to the dome of the shell. It sometimes reaches a diameter of 70 mm.

A singular and characteristic limpet, of no economic importance.

CRUCIBULUM SPINOSUM Sowerby.

Calyptræa spinosa SOWERBY, Gen. Shells, fascic. 23, 1824, *Calyptræa*, figs. 4, 7.

From the flats at Capon, and near Matacaballa, Sechura Bay, Peru.

Distribution.—California, and southward to Valparaiso, Chile, and the Galapagos Islands.

Shell resembling the preceding species in a general way, but less heavy, lighter in color, and with the upper surface faintly concentrically striated, and with more or less developed subtubular spines varying in different specimens from mere low tubercles to long elevated spines. It reaches only about 30 mm. in diameter, as a rule, and is of no economic importance.

CREPIDULA DILATATA Lamarck.

Crepidula dilatata Lamarck, Anim. s. Vert., vol. 6, 1822, pt. 2, p. 25.—Broderip, Trans. Zool. Soc. London, vol. 1, 1834, p. 203, pl. 28, fig. 11.

On oysters and other objects in about 5 fathoms, near Matacaballa, Sechura Bay; also on the beaches. Also from rocks at the north end of Callao water front, and on the north shore of San Lorenzo Island; called by the fishermen "piques." Found breeding in February.

Distribution.—From the Straits of Magellan northward to Mazatlan, Mexico, and at the Galapagos Islands.

Shell slipper shaped, rounded, brownish with a white septum internally; upper surface convex, varying from nearly smooth to lamellose, the general form irregular, conforming to the individual situs. Length about 30 mm.

CREPIDULA CREPIDULA Linnæus.

Patella crepidula Linnæus, Mus. Lud. Ulricæ, 1764, p. 689.—Favanne, Conch., pl. 4, fig. D.

Crepidula unguiformis Lamarck, Anim. s. Vert., vol. 6, 1822, pt. 2, p. 25.—Gualteri, Test., pl. 69, fig. H.

In dead shells on the flats at Capon.

Distribution.—The whole Peruvian province, in dead shells, and northward to the Gulf of California.

Shell oval, flattened or dorsally concave, white, corresponding to the curve of the shell in which it is found; of irregular outline, conforming to its situs; length about 35 mm. It has no economic value.

CREPIDULA ONYX Sowerby.

Plate 23, figs. 2, 5.

Crepidula onyx Sowerby, Gen. Shells, fascic. 23, 1824, *Crepidula*, fig. 2.

In various parts of Sechura Bay, adhering to oyster shells and other objects; and dredged off Matacaballa in about 5 fathoms.

Distribution.—From San Pedro, California, southward to Chile.

Shell slipper shaped, oval, with a smooth convex upper surface, a short, hardly prominent apex, and the internal septum white, with a nearly straight margin, and covering nearly half of the cavity of the shell; the exterior is more or less painted with brown spots, streaks or markings on a lighter ground; the interior usually dark brown, the septum white. It reaches a length of 45 mm.

The flesh of the analogous *C. fornicata* Lamarck, of the Atlantic coast of North America is regarded as a dainty in the raw state by epicures, but there is no information as to the economic use of the present species. The other species of the genus found in Peru are too small to be of much importance.

TROCHITA TROCHIFORMIS Gmelin.

Plate 23, fig. 1.

Patella trochiformis GMELIN, Syst. Nat., vol. 8, 1791, p. 3693.
Calyptræa dilatata SOWERBY, Gen. Shells, fascic. 23, 1824, fig. 9.

Picachos. From the beach at Pisco.

Distribution.—From Panama southward to Chile.

Shell conical, flattened on the slopes, with a spiral suture giving the effect of a spire; the surface radiately ribbed with rounded riblets, the color yellowish; below rounded with a more or less spiral septum of a white color; the dome of the shell brownish or whitish, the margin suborbicular when not disturbed by its situs. The elevation of the shell is very variable, and the diameter will average about 30 mm.

This is a very characteristic species of the Peruvian province, but of no particular economic significance.

SINUM CONCAVUM Lamarck.

Sigaretus concavus LAMARCK, Anim. s. Vert., vol. 6, 1822, pt. 2, p. 208.—SOWERBY, Gen. Shells, fascic. 19, 1823, *Sigaretus*, fig. 1.

From muddy sand on the inside beach at Capon (one young specimen). Caracol tapadera of the fishermen.

Distribution.—Between the equator and lat. 25° 30′ S., and at the Galapagos Islands.

Shell flattened, paucispiral, the last whorl much the largest; spirally closely sulcate, with a wide aperture and gyrate pillar; color livid flesh color to pale brownish.

The shell in the adult is nearly covered by the fleshy parts. The animal plows its way under the sand, drills holes in the shells it encounters and sucks the juices of its prey. It is economically injurious through its destruction, especially in their younger stages, of edible bivalves.

TURBO MAGNIFICUS Jonas.

Turbo magnificus JONAS, Zeitschr. für Malak., vol. 1, 1844, p. 167.—PHILIPPI, Abb. u. Beschr. neue Conch., vol. 2, 1847, p. 25, pl. 6, fig. 1.

Dead shells and an operculum on the beach at Lobos de Afuera Island.

Distribution.—From Manta, Ecuador, south to Callao, Peru, and the Lobos Islands.

Shell turbinate, ovate conic, turgid, imperforate, spotted or marbled with violet and white on an olivaceous or dark-greenish ground; whorls rounded, delicately axially striated; obscurely angulated above, on the spire; suture distinct, not channeled; aperture large, circular, internally pearly with an opaque margin; columella simple, callous above; operculum nearly smooth externally. A rare shell, probably without economic importance.

TURBO (PRISOGASTER) NIGER Wood.

Turbo niger Wood, Index Test., suppl., 1828, pl. 6, No. 1.—Sowerby, Gen. Shells, fascic. 37, 1832, *Turbo*, fig. 7.—Gray, in Beechey's Voy., Zool., 1839, p. 143, pl. 36, fig. 1.

From rocks at west end of Callao water front; from tidal pool on shingle beach at La Punta, Callao; dredged in 2½ fathoms on the northeast side of San Lorenzo Island; and common on the rocks along shore at the Chincha Islands.

Distribution.—From the Straits of Magellan northward to Pacasmayo, Peru.

Shell small, turbinate, smooth or spirally striated (especially in southern specimens), black, with a white aperture and smooth nearly hemispherical white shelly operculum; base imperforate, interior of aperture pearly; diameter about 20 mm.

TEGULA ATRA Lesson.

Plate 24, fig. 4.

Trochus ater Lesson, Voy. Coq., 1830, p. 344, pl. 16, fig. 2.

With the last species.

Distribution.—From the Straits of Magellan northward to Pacasmayo, Peru.

Shell imperforate, conical, more or less depressed; heavy, solid, lusterless black; with about six moderately convex, nearly smooth whorls; suture impressed; last whorl obtusely rounded at the periphery, base flattish, concave in the center, eroded and light purple in front of the aperture; outer lip with a black margin, pearly within; a white callus, bearing a spiral rib and somewhat excavated, in the umbilical region; an obscure tubercle at the end of the pillar. Operculum horny, multispiral; diameter of shell about 40 mm.

This is the largest of the black trochoid species for which the coast is noted.

TEGULA PATAGONICA Orbigny.

Trochus patagonicus Orbigny, Voy. Am. Mér., vol. 5, 1840, p. 408, pl. 55, figs. 1–4.—Philippi, Conch. Cabinet, 2d ed., *Trochus*, p. 225, pl. 34, fig. 12.

Taken on the shore rocks at Lobos de Afuera Island.

Distribution.—San Blas, Patagonia, northward to the Lobos Islands, Peru.

Shell orbiculate conic, thick, umbilicate, axially granulose-sulcate, uniform brownish or purplish, spire obtuse; whorls five, subcarinate; sutures excavated, aperture rounded, columella bidentate; diameter about 14 mm.

TEGULA TRIDENTATA Potiez and Michaud.

Trochus tridentatus Potiez and Michaud, Gal. de Douai, vol. 1, 1838, p. 321, pl. 29, figs. 16–17.—Kiener, Icon., *Trochus*, pl. 57, fig. 2.

Dredged in Sechura Bay, in 5 fathoms, also taken on the rocks in various places about the harbor of Callao.

Distribution.—From Talcahuano, Chile, northward to Sechura Bay, Peru.

Shell conoidal, heavy, solid, elevated, minutely perforate, black or purplish; whorls five or six, slightly convex, smooth; last whorl rounded at the periphery; base flattish, deeply eroded in front of the aperture; outer lip thick, lirate within, aperture small, oblique; umbilicus circular, minute; the pillar small, oblique, distinctly tridentate at the anterior end; diameter about 16 mm.

FISSURELLA CRASSA Lamarck.

Plate 24, figs. 5, 6.

Fissurella crassa LAMARCK, Anim. s. Vert., vol. 6, 1822, pt. 2, p. 11.—SOWERBY, Conch. Ill., 1834, fig. 11 (not fig. 2, nor *F. crassa* SOWERBY, Gen. Shells, 1828).

Lapa. Sometimes called "pata de burro," though this name is more generally applied to another form. Taken on rocky shores of the Pescadores Islands near Ancon; also at the Chincha Islands in similar places abundantly; also at Mollendo. Used for food and bait.

Distribution.—Coast of Chile and Peru, and the Galapagos Islands, and southward to the Straits of Magellan.

Shell oblong, depressed, with a subcentral foramen, sculptured only with faint concentric and radiate undulations, especially in front; color brownish; inside within the muscular scar pinkish, outside of it yellowish white with a narrow brown margin. Length about 85 mm.

FISSURELLA COSTATA Lesson.

Fissurella costata LESSON, Voy. Coq., vol. 2, 1830, p. 410.

Fissurella chilensis SOWERBY, Conch. Ill., 1836, *Fissurella*, fig. 36.

Lapa. Taken at Mollendo, July 23. These are probably utilized like the preceding species.

Distribution.—From the island of Chiloë northward to Mollendo, Peru.

Shell rounded oval, depressed, with the apex a little in front of the center; with radiating riblets. Perforation small, contracted in the middle by two small projections from each side; color grayish, rayed with brownish olive. Length about 40 mm.

FISSURELLA NIGRA Lesson.

Fissurella nigra LESSON, Voy. Coq., vol. 2, 1830, p. 412.—REEVE, Conch. Icon., *Fissurella*, 1850, fig. 11.

Lapa. One young specimen from the rocks at the north end of the Callao water front.

Distribution.—Straits of Magellan and northward to Peru and the Galapagos Islands.

Shell large, oval, conical, the summit in front of the middle; color black or purplish black, not rayed; surface, except for faint radial striation, smooth; foramen oblong, in young specimens tridentate; inside the shell is white with a black margin. Length up to 100 mm.

FISSURELLA PERUVIANA Lamarck.

Fissurella peruviana LAMARCK, Anim. s. Vert., vol. 7, 1822, pt. 2, p. 15 (not of DELESSERT, Rec., pl. 24, fig. 7).—REEVE, Conch. Icon., 1849, *Fissurella*, fig. 26.

Lapa. Dredged in Callao Harbor on the northeast side of San Lorenzo Island, in 2½ fathoms.

Distribution.—The whole Peruvian province.

Shell rounded oval, elevated, conical, the foramen small, a little in advance of the middle; radiately finely striated; inside white, the margin alternately red and gray; outside red toward the summit, becoming more purple and darker toward the base; the margin is smooth, with a dark border inside, the exterior rayed with dark purple. Length about 30 mm.

This is the *F. occidens* of Gould.

MEGATEBENNUS COKERI, new species.

Plate 24, figs. 3, 7.

Lobos de Afuera Island, on beach.

Shell ovate, narrower in front, solid, heavy, steep sided, anterior slope shorter, sharply radially sulcate, the interspaces flattish, feebly rounded, not uniform in width; lines of growth looped toward the apex over the interspaces; color greenish white toward the base, reddish purple toward the apex, with sparse rays of the latter color; foramen large, keyhole shaped, with a greenish margin; length of foramen at the outer margin nearly one-third of the total length of the shell; interior greenish white, with a polished, greenish, radiately striate margin to the foramen; margin of the base smooth, entire, extended for a narrow space over the exterior edge. The type (Cat. No. 207744, U.S.N.M.) measures: Length of shell 27.5; of outer edge of foramen 9.0; of inner edge of same 6.0; of foraminal inside margin 11.0; maximum width of shell at the posterior edge of the above margin 16.5; at the anterior edge of the above margin 14.0; height of the shell 10.0 mm.

This species unquestionably belongs to Pilsbry's section *Amblychilepas*, which was supposed to be wholly old world in its distribution. It much resembles *M. scutellum* (Gmelin) Pilsbry, but is darker toward the summit and lighter toward the base, while in the Cape of Good Hope species the reverse coloration obtains.

Named for Mr. R. E. Coker.

ACMÆA VIRIDULA Lamarck.

Plate 24, figs. 1, 2.

Patella viridula LAMARCK, Anim. s. Vert., vol. 7, 1822, p. 539.—DELESSERT, Rec. Coq., pl. 23, fig. 2.

Acmæa pretrei ORBIGNY, Voy. Am. Mér., vol. 5, 1841, p. 481, pl. 78, figs. 15-16.

Patela. From rocky shore on the northeast side of San Lorenzo Island, Callao Bay; similar stations on Lobos de Afuera Island; the Pescadores Islands; Sechura

Bay, and Mollendo. These shells, like other limpets, are also called "señoritas," or ladies (probably from a fancied resemblance to one of the flounced petticoats favored by Spanish señoras), and are used for food and bait.

Distribution.—Whole Peruvian province from Valparaiso to Paita.

Shell conical, with entire apex, solid, strong; rounded ovate, variable in height, the apex slightly in front of the middle of the shell; sculpture of low, rather wide radial ribs and obscure concentric and radial feeble striation; color whitish, with reticulated green markings, the interspaces of the ribs with larger greenish blotches; old shells may appear wholly gray outside and white inside, with a greenish inner border to the shell; young ones have a brownish or greenish blotch in the center.

These shells sometimes exceed 2 inches in length.

ACMÆA ORBIGNYI Dall, new name.

Acmæa scutum Orbigny, Voy. Am. Mér., vol. 5, 1841, p. 479, pl. 64, figs. 8, 9. Not of Eschscholtz, Zool. Atlas, vol. 5, 1833, p. 19, pl. 23, figs. 1, 2, 3.

Lottia punctata Gray, 1835, according to Orbigny; not *P. punctata* Lamarck (*Acmæa*), 1822.

Patela. On rocky shores of the northeast part of San Lorenzo Island, Callao Bay. Confused by the fishermen with the other species.

Distribution.—Whole Peruvian province from Chonos archipelago to Callao, Peru, and the Galapagos Islands. All these limpets seem to be called Patelas or Señoritas by the fishermen.

Shell rounded oval, conical, the apex a little anterior and directed forward; surface finely radiately striate; the striæ sometimes obsolete; color blackish, more or less flecked or dotted with white, with a broad dark margin and dark-brown central tract which, in old shells, may be obscured by a white shelly deposit. Length about 35 mm.

SCURRIA PARASITICA Orbigny.

Patella parasitica Orbigny, Voy. Am. Mér., vol. 5, 1841, p. 481, pl. 81, figs. 1, 2, 3. Not of Reeve, 1855.

Among other limpets collected at Mollendo. Of no economic importance.

Distribution.—From Valparaiso, Chile, north to Mollendo, Peru.

Shell rounded, conical, dome shaped, solid, the apex at the anterior third, with the anterior slope straight, the posterior arched; surface finely radially striated; whitish or gray, with radiating blackish rays of varying width; inside white, brown in the central area, border yellowish white, mottled by the external rays. Length about 20 mm.

CHITON CUMINGSII Frembly.

Chiton cumingsii Frembly, Zool. Journ., vol. 3, 1827, p. 198, suppl. pl. 16, fig. 3.—Sowerby, Conch. Ill., 1841, *Chiton*, fig. 32.

Amaurochiton cumingsii Thiele, Gebiss d. Schneck., vol. 2, 1893, p. 362.

Barquillo. From rocks on the north side of the Callao water front and from tidal pool at La Punta, Callao; also from rocks on the shore at the Chincha Islands. Of no economic importance.

Distribution.—From Chiloë Island north to Tumbes, Peru.

Shell ovate oblong, with eight overlapping valves within a narrow border covered with flat pavement-like scales; whitish or olive, very closely and regularly striped with brown or lavender-colored concentric lines, which converge forward on the middle of the valves. Interior pale blue. Length about 50 mm., when full grown.

This is one of the most elegant and characteristic of the numerous chitons for which this province is noted.

CHITON GRANOSUS Frembly.

Chiton granosus Frembly, Zool. Journ., vol. 3, 1829, p. 200, suppl. pl. 17, fig. 1.—Reeve, Conch. Icon., 1848, *Chiton*, pl. 5, fig. 27.

Barquillo. Collected at Mollendo.

Distribution.—From Magellan Straits north to Tumbes, Peru.

Shell black, having a white stripe on each side of the central line, between the stripes clouded with whitish; surface sculptured with radiating lines of bead-like pustules; inside whitish, more or less clouded with olive gray. Length about 40 mm.

This species like the other chitons is of no economic importance.

CHÆTOPLEURA HENNAHI Gray.

Chiton hennahi Gray, Spicilegia Zool., 1828, p. 6, fig. 11.—Sowerby, Conch. Ill., 1841, *Chiton*, figs. 1, 33.

Barquillo. Callao, 5 to 7 fathoms, and from rocks at the north end of Callao water front.

Distribution.—Callao, Peru.

Shell brownish, smooth, sometimes marked with red or greenish white; girdle or border leathery, with short hairs easily rubbed off; inside white, brown under the beaks of the valves. Length about 40 mm.

ACANTHOPLEURA (COREPHIUM) ECHINATA Barnes.

Plate 23, fig. 6.

Chiton echinatus Barnes, Am. Journ. Sci., vol. 7, 1823, p. 71, pl. 3, figs. 4, 4a.

Chiton spiniferus Frembly, Zool. Journ., vol. 3, 1827.—Sowerby, Conch. Ill., 1833, *Chiton*, fig. 47.

Barquillo. From rocks along shore on the northeast side of San Lorenzo Island, Callao Bay.

Distribution.—From Valparaiso, Chile, northward to Paita, Peru, and the Galapagos Islands.

Shell elongate, solid, carinated along the dorsal ridge, the sides of the central areas engraved with fine flexuous grooves; color dark brown; lateral areas with several radiating lines of pustules; girdle broad, leathery, with strong projecting spines. Length 100 mm. or less, according to age.

This and the following species are particularly characteristic of this zoological province.

The name "barquillo," used for these animals by the fishermen, is probably derived from the resemblance, when the animal is placed on its back, to a little boat.

ENOPLOCHITON NIGER Barnes.

Plate 23, fig. 8.

Chiton niger Barnes, Am. Journ. Sci., vol. 7, 1823, p. 71, pl. 3, fig. 3.
Chiton coquimbensis Frembly, Zool. Journ., vol. 3, 1829, p. 197, suppl. pl. 16, fig. 2.

Barquillo. Collected at Mollendo.

Distribution.—Valparaiso, Chile, and northward to Mollendo, Peru.

Shell oblong, with rather elongate, strongly beaked, polished valves of a dark brown inside and out, which are usually badly eroded; girdle broad, fleshy, bearing numerous elongated, more or less widely separated narrow scales, the interspaces having a velvety surface. Length about 75 mm.

This species is said to live on the rocks between tides, exposed to the full force of the surf. The peculiar separated scales on the girdle will always enable it to be identified.

POLYPUS FONTAINEANUS Orbigny.

Plate 20, fig. 1.

Octopus fontaineanus Orbigny, Voy. Am. Mér., vol. 5, 1835, p. 28, pl. 2, fig. 5.

Pulpo. Taken on the shore rocks, Lobos de Afuera Island, in March; and taken in a trammel net at the Chincha Islands. Common and used as food.

Distribution.—Coasts of Chile and Peru.

Animal with eight arms, of a rich purple color, but the tint variable, the surface obscurely granulose. Extreme length of specimens examined about 25 centimeters.

The details of its appearance will be very clearly recognized from the figure above referred to. It has no internal shell or endostyle.

LOLIGO GAHI Orbigny.

Plate 21, figs. 1, 2.

Loligo gahi Orbigny, Voy. Am. Mér., vol. 5, 1835, Moll., p. 60, pl. 3, figs. 1, 2.

This species was not collected by Mr. Coker, who is, however, familiar with it, and since it forms one of the economic species of Peru, I have copied Orbigny's figure to make the report more complete. Mr. Coker notes in regard to the names for the cuttlefish (*Octopus*, *Polypus*) that it is called *pulpo*, or *jibia*. A large pulpo is called *chancharro*.

The squid (*Loligo*) is called *calamar*, a word doubtless derived from the Latin *calamarius*, a pen bearer, in allusion to the internal endostyle of the ten-armed cephalopods. To the larger specimens, those 2 feet or more in length, the name *pota* is given. Calamar, pulpo, and jibia are proper Spanish names, pota and chancharro probably of local origin.

Distribution.—In the Patagonian and Peruvian zoological provinces and the West Indian region.

The animal is normally of a pinkish white dotted with dark red, especially on the dorsal region. It has ten arms and an internal "pen" or endostyle, which is plume-shaped with symmetrical vanes, as represented in figure 2. This endostyle is of a cartilaginous material and not shelly, as in some other genera, such as *Sepia*, etc. The details of form are well represented by the figure.

Beside the mollusks enumerated in the above report, Mr. Coker collected the following species belonging to the Brachiopoda.

DISCINISCA LAMELLOSA Broderip.

Orbicula lamellosa Broderip, Proc. Zool. Soc. of London for 1833, p. 124; Trans. Zool. Soc. London, vol. 1, 1834, p. 142, pl. 23, fig. 2.

On *Mytilus* (Choro) at Ancon Bay. Of no economic importance.

Distribution.—From the Island of Chiloë northward to the Gulf of Panama, adhering like limpets to mussels, the timbers of old wrecks, and even to the bottoms of vessels which remain at anchor for some months. They occur from low-water mark to a depth of 9 or 10 fathoms.

The shell is horny, rounded, and nearly flat, with a more or less profusely lamellose surface; the upper valve is slightly convex, the apex a little eccentric, the lower valve is flat, radially striate, very thin, and pierced by a narrow foramen through which a fleshy pedicel extends by which the animal adheres to solid objects. The color is yellowish brown, and the diameter of these shells when normally developed rarely much exceeds 25 mm.

LIST OF THE PRINCIPAL WORKS RELATING TO THE MOLLUSCAN FAUNA OF THE PERUVIAN ZOOLOGICAL PROVINCE.

The following works are those most necessary for a study of this fauna, though many others have been consulted for incidental references. The abbreviations used in the faunal list to designate some of the more frequently cited works follows the title in parentheses.

Bayern, Therese, Princessin von. Im Jahre 1898, auf einer Reise in Süd-amerika gesammelte Mollusken. Nachr. Deutsche Malak. Ges., 1900, pp. 49–58, pl. 1.

Bergh, Rudolph. Die Opisthobranchier der Sammlung Plate. Zool. Jahrb. suppl. This is supplemental Bd. 4, pt. 1, 1898, pp. 481–582, 8°, pl. 6. (Fauna Chilensis).

Bertin, Victor. Revision des Tellinidés du Muséum d'histoire naturelle. Nouvelles Archives du Muséum, ser. 2, vol. 1, 1878, pp. 203–361, pls. 8–9.

——— Revision des Donacidées du Muséum d'histoire naturelle. Nouvelles Archives du Muséum, ser. 2, vol. 4, 1879, pp. 57–121, pls. 3, 4.

——— Revision des Garidées du Muséum d'histoire naturelle. Nouvelles Archives du Muséum, ser. 2, vol. 3, 1880, pp. 57–129, pls. 4, 5.

Boas, J. E. V. Spolia Atlantica, 1886, 248 pp. 4°, 8 pls. (see pp. 160–161).

Broderip, W. J. Descriptions of some new species of Calyptræidæ. Trans. Zool. Soc. London, vol. 1, 1834, pp. 195–206, pls. 27–29.

Dall, William Healey. Preliminary Report on the Collection of Mollusks and Brachiopoda obtained (by the U. S. S. *Albatross*) in 1887–88. Proc. U. S. Nat. Mus., vol. 12, 1889, No. 773, pp. 219–362.

——— Synopsis of the Family Veneridæ and of the North American recent species. Proc. U. S. Nat. Mus., vol. 26, 1902, No. 1312, pp. 335–412, pls. 13–16.

——— Synopsis of the Carditacea and of the American species. Proc. Acad. Nat. Sci. Phila., for 1902, pp. 696–716, Jan. 1903.

——— The Mollusca and Brachiopoda (of the *Albatross* in the Eastern Pacific during 1891, 1904, and 1905). Bull. Mus. Comp. Zoöl., vol. 43, 1908, pp. 205–531, pls. 1–22.

Dautzenberg, Philippe. Liste des Mollusques du Chili. Actes de la Société Scientifique du Chili, vol. 6, 1896, pp. lxiv–lxvii, 1896.

Fischer, Paul. Manuel de Conchyliologie, 1880–1887. Paris, F. Savy. 8°, pp. xxiv, 1569; pls. 1–23 (Man. Con.) (see pp. 169–171).

Gray, John Edward, and Sowerby, George Brettingham. Zoölogy of Captain Beechey's Voyage, 1839, pp. xii, 155, 4°, pls. 33–44. (Beech. Voy.)

The Mollusca were treated by Gray, pages 103–142, and continued by Sowerby, pages 143–155.

Gould, Augustus Addison. United States Exploring Expedition, 1838–1842, by Charles Wilkes, U. S. N., vol. 12, Mollusca and Shells, 4°, pp. xv, 510, 1852; atlas folio, 1856. (Wilkes Exp.)

The figures in the Atlas are numbered continuously without reference to the plates. The collections, field notes, and many of the descriptions were prepared by Joseph Pitty Couthouy, naturalist of the expedition. Many of the preliminary diagnoses were published in the Proceedings of the Boston Society of Natural History, 1846–47, and afterwards collected with other reprints, in 1862, by Doctor Gould, in a small volume entitled "Otia Conchologica," (Boston, 1862, Gould and Lincoln, 8°, 256 pp.)

Hidalgo, Joaquin Gonzalez. Moluscos del Viaje al Pacifico verificado de 1862 a 1865, por una comision de naturalistas enviada por el Gobierno Español., vol. 3, Univalvos marinas, Madrid, 1879. 4°, pp. 1–44 (all issued).

——— Descripcion de los moluscos recogidos por la Comision cientifica enviada por el Gobierno Español a la America Meridional, Madrid, 1893, 4°, pt. 3, pp. 332–432 (1893), 433–608, 1898.

Hoyle, William E. A Catalogue of the Recent Cephalopoda. Edinburgh, Proc. Roy. Phys. Soc., vol. 9, 1886, 8°, pp. (1–63) 205–267.

——— A Catalogue of the Recent Cephalopoda, Supplement 1887–1896. Idem., 1897, pp. (1–13) 363–375.

——— Report on the Cephalopoda (of the Expedition to the tropical Pacific, of the U. S. S. *Albatross* 1899–1900). Bull. Mus. Comp. Zoöl., vol. 43, 1904, Cambridge, Mass., 8°, pp. 1–93, pls. 1–12.

Hupé, Louis Hippolyte. Fauna Chilena. Moluscos. (In) Historia fisica y politica de Chile, por Claudio Gay; Zoologia, vol. 8, Paris, 1854. 8°, pp. 1–500; Atlas II, fol. pls. 1–14, 1854. (Hist. Chile.)

Lesson, René Primevére. Voyage autour du monde, sur la Corvette la Coquille, pendant les années 1822–1825. Zoölogie, vol. 2, 4°, pt. 1, 1830; pt. 2, 1831–32. (Voy. Coq.)

Usually catalogued under the name of Duperrey, commander of the vessel.

Mabille, Jules. Étude monographique du genre Concholepas. Annales de Malac., vol. 2, 1886, pp. 261–282, pl. 3–5.

Martens, Eduard von. Ueber einige Conchylien aus Chile. Malak. Blätt., vol. 16, 1869, pp. 215–222.

Molina, Giovanni Ignacio. Saggio sulla storia naturale del Chili. Bologna, 1782, 8°, 7 pls., 1 chart.

Orbigny, Alcide d'. Voyage dans l'Amérique Méridionale, vol. 5, Mollusques. Paris, Bertrand, 1835–1846. 4°, pp. 1–48, 1835; 49–184, 1836; 185–376, 1837; 377–408, 1840; 409–488, 1841; 489–758, 1846; and atlas, 4°, pp. 4, pls. 1–84, 1846. (Voy. Am. Mér.)

Pfeffer, Georg. Die Cephalopoden des Hamburger Naturhist. Museum. Abh. Ver. Hamb., vol. 8, 1885, pp. 1–30, pl. 1–3.

Philippi, Rudolphus Amandus. Abbildungen und Beschreibungen neuer oder wenig gekanntes Conchylien. Cassel, 4°, vol. 1, 1842–1845; vol. 2, 1847; vol. 3, 1847–1851. (Abb.)

——— Breves descriptiones Molluscorum quorundam terrestrium et marinorum Chilensium. Abhand d. Naturf. Ges. zu Halle, vol. 4, pts. 2 und 3, 1858; Sitzungb. d. Jahr. 1857, pp. 21–24.

——— Beschreibung einige neuer Conchylien aus Chile. Zeitschr. f. d. ges. naturw. Halle, vol. 12, 1858, pp. 123–125.

——— Reise durch die Wüste Atacama auf befehl der Chilenischen regierung in sommer 1853–54. Halle, Eduard Anton, 1860. 4°, pp. 192+62, pl. 27, 1 karte. (Atac.)

Plate, Ludwig H. Die Anatomie und Phylogenie der Chitonen. Zoöl. Jahrb., suppl. Bd. 4, pt. 1, 1898, pp. 1–243; pt. 2, 1899, pp. 15–216.

Poirier, Jules. Revision des Murex du Muséum. Nouvelles Archives du Muséum d'histoire naturelle. Sér. 2, vol. 5, 1881, pp. 13–128, pl. 4–6. (Rev. Murex.)

Reeve, Lovell Augustus. Conchologia Iconica or Illustrations of the shells of Molluscous animals. 20 vols., 4°, 1843–1878.

These monographs contain a large number of figures of West South American species from the collection of Hugh Cuming, now in the British Museum. The work is cited by monographs, each of which is supposed to be complete in itself, the numbers assigned to figures running continuously from the beginning to the end of each monograph without reference to the separate plates. After the death of Mr. Reeve, in 1865, the remaining volumes were edited by Mr. G. B. Sowerby.

Sowerby, George Brettingham. Genera of recent and fossil shells. 8°, 42 parts, 264 colored plates, not numbered or paginated. 1820–1834. (Gen. Sh.)

The figures are cited by genera. For dates of the several fasciculi consult Sherborn in Ann. Mag. Nat. Hist., ser. 6, vol. 13, April, 1894; and Sykes, Proc. Mal. Soc., vol. 7, 1906, pp. 193–194.

——— The Conchological Illustrations. London, 1832–1841. 8°, 2 vols. (C. Ill.)

Contains monographic lists of 19 genera and figures many of the species first collected by Hugh Cuming.

——— Thesaurus Conchyliorum, or figures and descriptions of shells. 5 vols., 4°, 1842–1884. (Thes. Con.)

Stearns, Robert Edwards Carter. List of shells collected on the west coast of South America, principally between latitudes 7° 30′ S. and 8° 49′ N., by Dr. W. H. Jones, surgeon, U. S. Navy. Proc. U. S. Nat. Mus., vol. 14, No. 854, pp. 307–335, Washington, 1891.

Stempell, Walter. Beiträge zu Kenntniss der Nuculiden. Zool. Jahrbuch, suppl. Bd. 4, pt. 1, 1898, pp. 339–430.

——— Die Muscheln der Sammlung Plate. Zool. Jahrb., suppl. Bd. 4, heft 2, pt. 1, 1899, pp. 217–250, pl. 12. (Fauna Chilensis.)

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Troschel, F. H. Verzeichniss der durch Herrn Dr. v. Tschudi in Peru, gesammelten Conchylien. Arch. für Naturg., vol. 18, pt. 1, 1852, pp. 151–208, pls. 5–7 (Arch. Nat.)

TRYON, GEORGE WASHINGTON (and PILSBRY, HENRY AUGUSTUS). Manual of Conchology, structural and systematic. 17 vols., 8°, 1879–1898. (Man. Con.)

After the death of Mr. Tryon, in 1888, this work was continued by Doctor Pilsbry. The above title refers to the series containing the Marine Gastropods only. In particular monographs the authors were assisted by W. B. Marshall, Benjamin Sharp, and S. Raymond Roberts.

WISSEL, KURT VON. Beiträge zur Anatomie der Gattung Oncidiella. Zool. Jahrbuch, suppl. Bd. 4, pt. 1, 1898, pp. 583–640.

ZOOLOGICAL SOCIETY OF LONDON. Proceedings, 1832–1854. 8°.

Includes descriptions of species collected on the west coast of South America by Hugh Cuming, and diagnosed by Broderip, Sowerby, Powys, Swainson, and others. These descriptions as a rule have no titles assigned to them. (Proc. Zool. Soc.)

THE PERUVIAN PROVINCE.

The littoral marine molluscan faunas of the west coast of the two Americas, excluding the Arctic and Antarctic faunas properly so called, were recognized more than half a century ago in their main outlines by Woodward.[a]

They comprise, beginning at the north:

1. The *Oregonian Province*, extending from the limit of floating ice in Bering Sea south to Point Conception, California;
2. The *Californian Province*, ranging from Point Conception south to Lower California;
3. The *Panamic Province*, from Lower California, including the Gulf of California, south to the Bay of Guayaquil, Ecuador;
4. The *Peruvian Province*, extending from Guayaquil south to the vicinity of the island of Chiloë in southern Chile; and
5. The *Magellanic Province*, from Chiloë to the Fuegian Archipelago, and for a short but undetermined distance north on the Argentine coast, on the Atlantic side.

These provinces will eventually be recognized as containing minor divisions, with which, on this occasion, we are not concerned.

The distribution recognized in the term "Province" appears to be directly dependent on the temperature of the surface stratum of the sea which, in its turn, is distributed by ocean currents. In the case of the Peruvian Province a branch of the eastward-flowing south Pacific current diverges from the main stream and impinges upon the coast of South America in the vicinity of Chiloë Island. Thence it follows the coast northward, until by the northwesterly trend of the Peruvian shores it is diverted, in the vicinity of Point Aguja and Cape Blanco, to the westward, where it continues in the direction of the Galapagos group of islands. This current, known as the "Peruvian" or "Humboldt" current, throughout its entire extent maintains a temperature varying with the season of from 65° to 70° F. The temperature of the surface off Aguja Point, Peru, in November was 65° F. The temperature of the water in the Magellanic

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[a] Manual of the Mollusca, 1856, pp. 373–377.

Province in midsummer varies from 50° F. in the straits themselves to 55° on the Chilean coast in the vicinity of Valdivia.

The surface temperatures of the Peruvian current, as related to those of the Magellanic water, are therefore warmer; and, as compared with the Panamic waters, measurably colder.

Precisely such a relation to the coast of North America is held by the southerly branch of the North Pacific current, which reaches the coast near Sitka with a summer temperature of 65° to 68°. This has diminished in the latitude of San Francisco Bay to 54° F., but the current continues until, in the vicinity of Point Conception, California, it is diverted off shore in a manner entirely analogous to the fate of the Peruvian current at Point Aguja.

The water of the Panamic Province is less disturbed by currents, receives the full heat of the tropical sun, and, as shown by Dr. Alexander Agassiz, emerges from the Gulf of Panama, follows the coast toward Cape San Lorenzo, and is there diverted offshore toward the Galapagos Islands. Trees from the mainland with leaves still adhering to them are occasionally cast upon the shores of the Galapagos, as observed by Dr. Agassiz, showing clearly that the current is not only present, but has no inconsiderable motion. The temperature of this water near the coast of Ecuador and only a few miles from the limit of the Peruvian current, in November, varied from 70° to 83° F., and, in March and April from 78° to 85° F. Among the Galapagos Islands the range in April was 81° to 83° F.

It will be noticed therefore that the currents fully account for the peculiarities of the Galapagos mollusk fauna, which exhibits large contributions from the Panamic and Peruvian faunas with only a very unimportant tincture of the Indo-Pacific in its make up.

A series of surface temperatures measured in November at right angles to the Peruvian current off Point Aguja, by the United States Bureau of Fisheries steamer *Albatross*, began with a temperature of 65° F. close in shore, rose quickly to 69° and later to 70° in the middle of the current, and declined again to 69° F. on its western edge.

The first exploration of the molluscan fauna of the Peruvian Province which was systematically carried on was that of Hugh Cuming. He was resident for some years at Valparaiso, later dredged and collected vigorously at various points of the Bay of Guayaquil. Tradition has handed down the account that a severe earthquake (referred to by Darwin in the Voyage of the *Beagle*) laid bare a long stretch of coast where the shore mollusks, elevated above their natural situs, were accessible to the collector by the thousand. Mr. Cuming collected largely, and on his return to England these collections gave an opportunity to the systematic naturalists to describe many new Peruvian and Chilean shells. This lasted for a good many years. Broderip, Sowerby, Swainson, Gaskoin, Powys, Deshayes, and Reeve worked on these collections during the first half of the nineteenth century, and, according to Woodward,[a] Mr. Cuming's collection embraced 222 species from the coast of Peru south of Paita, and 172 species from the coast then politically included in Chile. Of these probably half were common to the northern and southern portions of the province. A little later the explorations of Humboldt and Bonpland added a few species; the majority of their collection it would seem were not worked up.

M. Alcide D'Orbigny's South American investigations seem to have been, so far as this province is concerned, largely restricted to the Chilean portion of it. He collected 160 species, one-half of which were common to Chile and Peru, while only one species was common to Callao and Paita. The inference naturally drawn from this last fact by Woodward and others was that the northern border of the province lay between those two ports. But this conclusion was due to imperfect knowledge, and is completely refuted by later information. At present more than 200 species are known to be common to Paita and Callao.

Orbigny's report with its atlas of fine illustrations is a classic source for information, relating, however, to South America as a whole, rather than to the Peruvian Province.[b]

Collections made by Gay and others, worked up in his monographic Historia de Chile, by Hupé, form the third large and well-illustrated contribution to the malacology of the province, chiefly restricted of course to the southern, or Chilean, portion.

The last important contributor to a knowledge of this fauna, in these earlier days, was the German naturalist Philippi, who added numerous species and useful illustrations in the Zeitschrift für Malakozoologie, his Abbildungen, and his Atacama Reise.

Of course many minor contributors to the work, such as Lesson, Jonas, etc., might be mentioned, but I propose in this hasty sketch to touch only on the most important. The list of Tschudi's collection, ostensibly from Peru, as described by Troschel, unfortunately contains numerous exotic Indo-Pacific and Panamic species, so that its authority is seriously impaired.

More recently the researches of Ludwig Plate, the Princess of Bavaria, and others mentioned in the bibliography have added essentially to our knowledge.

In considering the distribution of species along the coast of the province it should not be forgotten that the collections have not been made in an equal manner on different parts of the coast. The ports of Guayaquil, Paita, Callao, and Valparaiso have naturally been much more thoroughly explored than others. The careful collecting which would obtain the smaller species is not recorded to have been done anywhere at all.

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[a] Manual, p. 376.

[b] In my references to this work, for simplicity and convenience, I have omitted the article, since there seems to be no particular reason why we should reserve for D'Orbigny what custom has denied to De la Marck and De la Cépéde.

Dredging also is practicable with difficulty, except in the sheltered harbors, which occur so rarely on this coast, or by the aid of a large steamer, which could be had only under government auspices on account of the great expense involved.

The small lots of material derived from the mud which came up on the anchor of the U. S. Bureau of Fisheries steamer *Albatross* at one or two points, show that proper exploration will certainly reveal the presence of many small species, new or extra limital, which are at present unknown.

In the preparation of this list I have endeavored to give a reference to the original description and to the best available figure or figures. In determining what species should be included I have depended somewhat upon the known characteristics, as regards distribution, of the groups to which the species belong. For instance, if I found a species reported from Guayaquil and belonging to a widely distributed group, such as the *Pholadidæ*, though not actually reported from a Peruvian locality, I have not hesitated to include it, knowing that in all probability it will be found on more thorough search in Peruvian territory. There can be little doubt that a large number of the more mobile of the Panamic species reaching the Bay of Guayaquil will be found to have extended their range more or less within the northern border of the Peruvian Province, just as a certain number of the characteristic Magellanic species have traveled beyond their strict limits and mingle with the southern members of the Peruvian fauna. Species properly belonging to the Panamic Province and not reported as far south as Guayaquil or the Galapagos Islands have been omitted from the list.

It will be observed that the list contains only a few minute species. Doubtless many of these exist, and will be found when carefully sought for, but, as previously indicated, the majority of collectors seem to have confined their attention to the more conspicuous species.

I have included a certain number of pelagic forms, Cephalopods, Pteropods, and Nudibranchs, which are not strictly littoral, but are found occasionally thrown on the beaches or are captured within a short distance of the shore. And since collectors are certain to obtain them in their search for mollusks, I have added at the end of the list of Mollusca a list of the littoral Brachiopoda, some of which are so common on these shores.

In any first census of this kind some species will be included which later investigation will exclude. I have rejected a number of Tschudi's species as obviously exotic, but a small number remain which are doubtful and which are indicated by the name (Tschudi) as needing confirmation. I have also omitted a few names which seemed to be almost certainly due to misidentification or to a confusion between such localities as Arica and Africa. "Lumping" closely related species, such as some of the Siphonarias, has led certain authors to include purely Atlantic forms with their Pacific analogues under one name. So far as time and the access to specimens permitted, I have tried to disentangle such cases and use only the name belonging to the Pacific form. In making her dredgings the U. S. Bureau of Fisheries steamer *Albatross* seems to have avoided shallow water; and in the case of *Dentalium*, which has a wide range in depth, I have included a few species actually dredged beyond the 100-fathom line, but which will in all probability be found within it when sought for. No other deep-water species, however, have been admitted. An account of them will be found in my *Albatross* report of 1908. In scanning the list those unfamiliar with the repetition of names so prevalent in Spanish geographical nomenclature will need to remember that there is a Tumbes in Chile as well as in Peru, and be on the lookout for analogous cases. Species of Auriculidæ which are exclusively littoral although pulmonate have been included, also the salt-water Cyrenas, my aim being to include all species which are to be found along the shores of the province, on the beaches, and in the adjacent waters of the sea. Whatever deductions from the list may be necessary hereafter, I am convinced that they will be more than made up for by future additions from the ranks of the minute species.

It is probable, though not by any means certain, that when we eliminate the overflow from the Panamic and Magellanic provinces the remaining fauna on this long stretch of coast may be susceptible of division into subfaunas, but it is too early to speculate about this possible feature of the distribution.

I have indicated in the preceding remarks the nature of the reservations which must be made in discussing the statistics of our present census of the Peruvian fauna, and subject to those reservations we may now proceed to consider the figures.

The total number of species appears to be 869, of which 64 are pelagic and may be omitted from consideration in the matter of distribution, leaving 805. Taking the present political limits of the two countries as a starting point, we find 71 species reported from Peru exclusively, and 103 restricted to Chile. But as political and biological boundaries rarely have anything in common, these data are not especially significant. We have 174 species restricted to Peru or Chile, and 141 common to Peru and Chile, making 315 species proper to the province itself. In addition to these we have

253 species common to the Panamic Province and to Peru, and 239 species of the Panamic Province which are known to reach the northern border of the Peruvian Province at or near Cape Blanco, many of which will doubtless be found to have a more extended southerly range. In addition to these there are 25 species whose range extends from Upper California south to Peru or even to Valparaiso.

At the southern extreme of the Peruvian Province it receives 41 recruits from the Magellanic Province, few of which range north of Valparaiso. Of the whole 805 species enumerated, which are not pelagic, only 24 are known from the West Indies or Atlantic Ocean, most of which are Pholads, borers, or limpets, forms peculiarly liable to transportation long distances on ships or floating timber. The only species which can be regarded as also Indo-Pacific are even fewer in number and to be included in the same category.

Eliminating all the pelagic species and all the Panamic species not shown to be now actually domiciled within the limits of the Peruvian Province, we have a population for the province of 566 species of littoral marine mollusks.

In Bulletin 84 of the U. S. Geological Survey, pages 25–28, 1892, I have shown that the average population for a warm-temperate area (where the temperature ranges from 60° to 70° F.) is about 500 species of shell-bearing mollusks. Adding the species of Nudibranchs, naked Tectibranchs, and littoral cephalopods enumerated in our list, it would seem that the average is pretty well maintained in the case of the Peruvian Province.

Dismissing the minuter species from consideration as insufficiently known, the more striking characteristics of the Peruvian fauna may be summed up as follows:

1. There is an unusual proportion of the species which are black or blackish or of a lurid tint. This feature of the fauna has attracted attention from all who have studied it and has been discussed by von Martens. It is particularly marked among the phytophagous groups.

2. The fauna is notable for its Fissurellidæ and Acmæidæ, its Trochids of the genus *Tegula*, its numerous and peculiar chitons, its numerous Cancellarias, the development of Calyptræidæ, of species of Arcidæ, and of the genus *Thais*, *Chione*, *Semele*, *Petricola*, *Mulinia*, all represented by numerous species.

3. The deficiencies in the fauna are as marked as the redundancies. There are notably few Pectens or Lucinas, and the Tellinidæ are poorly represented. *Acteon*, the smaller Tectibranchs, *Conus*, the Turritidæ especially, the Marginellidæ, *Fusinus* and its allies, *Epitonium* (*Scala*) and the Pyramidellidæ are all very poorly represented. *Calliostoma* and *Margarita*, *Haliotis* and *Pleurotomaria* are absent or barely represented.

The notion that the mournful colors of so many of the species might be correlated with the huge beds of kelp characteristic of these shores seems to be negatived by the fact that in California similar kelp beds afford a shelter to some of the most brightly colored Trochidæ, etc., and that, as I am informed by Mr. Coker, red and green seaweeds are abundant on the rocks below low-water mark, on a large part of the coast of Peru, and presumably also of Chile. This and a number of other problems await the investigations of the future.

Lastly, a survey of the characteristic groups of which the fauna is largely made up leads to the conclusion that the fauna is chiefly of southern origin. In spite of the fact that many species are common to the Panamic fauna and a relatively small number to the Magellanic fauna, the more conspicuous types, like the blackish species of *Tegula*, have a Magellanic rather than a tropical character. This particular group has extended its range to Alaska on the north and Japan on the northwest, but its metropolis is in southern Chile. The type represented by the various species of *Thais* and *Acanthina* has traveled the same road, and so has the *Protothaca* group of Veneridæ.

If we may accept as the original metropolis of a special type of mollusks that region where it is developed in the greatest number and variety of species, and perhaps also with the most extreme limits of size and ornamentation, we shall have for example *Buccinum* and *Chrysodomus* focused in the boreal Pacific region, certain types of *Thais* and *Acanthina* in the region of southern Chile.

Cook has called attention to the relation between *Thais lapillus* and the Oregonian *T. lamellosa*, and other species in the Tropics of the Panamic and Antillean region; but, viewed from an Eastern Pacific standpoint, the relatively few Atlantic forms may easily have originated in the Pacific, where their existing representatives show a much more luxuriant development.

There is only one *Thais* of the *Nucella* type in the North Atlantic, but the North Pacific has five or six. It is very remarkable that in the Peruvian Province we have not a single distinctively old world type of mollusk. Those which seem to be such are really cosmopolitan types, more familiar to us from old world localities, perhaps, but not necessarily of old world origin.

APPROXIMATE LATITUDES OF PLACES MENTIONED IN THIS CATALOGUE.

	°	′
San Diego, California	33	12 N.
Cerros (Cedros) Island, Lower California	28	00 N.
Mazatlan, Gulf of California	23	20 N.
Acapulco, Mexico	16	00 N.
Gulf of Nicoya, Central America	9	40 N.
Panama	8	29 N.
Chiriqui, Central America	8	00 N.
Montijo Bay, Central America	7	40 N.
Bahia (Panguapi) Ecuador	3	00 N.
Atacames, Ecuador	0	50 N.
Bahia de Caraques (Caracas)	0	35 S.
Chatham Island, Galapagos Islands	1	00 S.
Manta, Ecuador	1	00 S.
Monte Cristi, Ecuador	1	00 S.
Jipijapa (Xipixapi), Ecuador	1	15 S.
Isla la Plata, Ecuador	1	20 S.
Salango, Ecuador	1	30 S.
Bahia Santa Elena, Ecuador	2	10 S.
Guayaquil, Ecuador	2	11 S.
Puna Island, Bay of Guayaquil, Ecuador	3	00 S.
Capon, Huaquilla, and Matapalo	3	10 S.
Tumbes (Tumbez), Peru	3	30 S.
Paita (Payta), Peru	5	00 S.
Lobos Islands (northern), Peru (Lobos de Tierra)	5	20 S.
Lobos Islands (southern), Peru (Lobos de Afuera)	6	27 S.
Sechura Bay, Peru (and Matacaballa)	5	40 S.
Lambayeque, Peru	6	30 S.
Pacasmayo, Peru	7	25 S.
Salaverri, Peru	8	10 S.
Guañape Islands, Peru	8	30 S.
Isla Blanca, Chimbote Bay, Peru	9	08 S.
Casma, Peru	9	30 S.
Ancon, Peru (and Pescadores Islands)	11	47 S.
Callao, Peru (with La Punta, S. Lorenzo Island, etc.)	12	00 S.
Chilca, Peru	12	30 S.
Asia Islands, Peru	12	50 S.
Pisco (Chincha and Ballestas Islands, San Gallan Island)	13	45 S.
Paracas Bay, Peru	13	50 S.
Bay of Independencia, Peru (and Windy Bay)	14	15 S.
Ica, Peru	14	30 S.
Islay, Peru	17	00 S.
Mollendo, Peru	17	00 S.
Arica, Chile	18	30 S.
Mejillones del Norte, Chile	19	50 S.
Iquique, Chile	20	15 S.
Cobija, Chile	22	30 S.
Antofagasta, Chile	22	40 S.
Mejillones (Mexillones) del Sur, Chile	23	00 S.
Isla Blanca (del Chimba) of Philippi, Chile	23	37 S.
Paposo, Chile	25	07 S.
Caldera, Chile	27	00 S.

	°	′
Copiapo, Chile	27	10 S.
Coquimbo, Chile	30	00 S.
Quintero, Chile	32	45 S.
Valparaiso, Chile	33	00 S.
Juan Fernandez Island, Chile	33	40 S.
Talcahuano, Quiriquina, and Tumbes, Chile	36	40 S.
Lota and Concepcion, Chile	37	10 S.
Valdivia, Chile	39	50 S.
Puerto Montt, Chile	41	30 S.
Island of Chiloë, Chile	42	30 S.
Chonos Archipelago, Chile	45	00 S.
Magellan Straits, western entrance	52	35 S.

LIST OF SPECIES COMPOSING THE FAUNA.

SUBKINGDOM MOLLUSCA.

Class CEPHALOPODA.

Order DIBRANCHIATA.

Suborder OCTOPODA.

Family ARGONAUTIDÆ.

Genus ARGONAUTA Linnæus.

ARGONAUTA CORNUTA Conrad.

1854. Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 2, p. 332, pl. 34, fig. 2. Gulf of Panama to Cape St. Lucas.

ARGONAUTA NOURYI Lorois.

1852. Rev. et Mag. de Zool., ser. 2, vol. 4, p. 9, pl. 1, fig. 5. Marquesas Islands; coast from Peru to Mexico.

ARGONAUTA PACIFICA Dall.

1869. Amer. Nat., vol. 3, p. 237. From the Galapagos Islands north to Monterey, California.

ARGONAUTA NODOSA Solander.

1786. Portland Catalogue, p. 96, No. 2120.—Shaw, Nat. Misc. 1811, vol. 23, pl. 995. Off Chiloë Island.

ARGONAUTA HIANS Solander.

1786. Portland Catalogue p. 44, No. 1055.—Adams and Reeve, Voy. Samarang, Moll., 1850, p. 4, pl. 3, figs. 2 *a–c*. Indo-Pacific Ocean; Chilean coast.

Family PHILONEXIDÆ.

Genus TREMOCTOPUS Della Chiaje.

TREMOCTOPUS MINIMUS Orbigny.

1835. Voy. Am. Mér., vol. 5, p. 23, pl. 1, figs. 4, 5. S. Lat 30°. off Coquimbo.

Family ALLOPOSIDÆ.

Genus BOLITÆNA Steenstrup.

BOLITÆNA MICROTYLA Steenstrup.

1859. Vid. med. Nat. Foren. Kjobenh. for 1858, p. 183.—Hoyle, Bull. Mus. Comp. Zool., vol. 43, p. 9, pl. 3, figs. 6–11; pl. 4, fig. 1. Galapagos Islands; also Atlantic Ocean.

Family POLYPODIDÆ.

Genus POLYPUS Schneider, 1784. (*Octopus* Lamarck, 1799.)

POLYPUS GRANULATUS Lamarck.

1799. Mém. Soc. Hist. Nat. Paris, vol. 1, p. 20.—Orbigny, Céph. Acét., 1838, p. 45, pls. 6, 23, fig. 2. Atlantic and Pacific Oceans; coast of Peru.

POLYPUS FONTAINEANUS Orbigny.

1835. Voy. Am. Mér., vol. 5, p. 28, pl. 2, fig. 5. Coast of Chile and Peru.

POLYPUS OCCIDENTALIS Hoyle.

1886. Challenger Ceph., p. 77.—Orbigny, Moll. Cuba, p. 14, pl. 1, 1845. Atlantic and Pacific Oceans; Galapagos Islands.

POLYPUS CHIERCHIÆ Jatta.

1889. Boll. soc. nat. Napoli, vol. 3, p. 65. Peru.

POLYPUS OCULIFER Hoyle.

1904. Bull. Mus. Comp. Zool., vol. 43, p. 14, pl. 4, figs. 3–4. Galapagos Islands.

POLYPUS PUSILLUS Gould.

1852. U. S. Expl. Exped. (Wilkes) Moll., p. 478, fig. 591. Cocos Island north to Acapulco, Mexico.

POLYPUS JANUARII Hoyle.

1886. Challenger Ceph., p. 97, pl. 7, figs. 1–4. Cocos Island.

POLYPUS SAPHENIA Gray.

1849. Brit. Mus. Cat. Ceph., p. 11. Peru.

POLYPUS MIMUS Gould.

1852. U. S. Expl. Exped. (Wilkes) Moll., p. 473, fig. 587. Peruvian region.

Genus MOSCHITES Schneider, 1784. (*Eledone* Leach, 1817.)

MOSCHITES ROTUNDA Hoyle.

1886. Challenger Ceph., p. 104, pl. 8, figs. 4–6. Gulf of Panama.

MOSCHITES VERRUCOSA Verrill.

1881. Bull. Mus. Comp. Zool., vol. 8, p. 105, pls. 5, 6. Gulf of Panama.

Genus ELEDONELLA Verrill.

ELEDONELLA DIAPHANA Hoyle.

1885. Ann. Mag. Nat. Hist., ser. 5, vol. 15, p. 232; Challenger Ceph., p. 107, pl. 9, figs. 3–6, 1886. Galapagos Islands.

Genus JAPETELLA Hoyle.

JAPETELLA PRISMATICA Hoyle.

1885. Ann. Mag. Nat. Hist., ser. 5, vol. 15, p. 231; Challenger Ceph., p. 109, pl. 9, figs. 1–2, 1886.

Suborder DECAPODA.

Superfamily MYOPSIDA.

Family LOLIGINIDÆ.

Genus LOLIGO Lamarck.

LOLIGO GAHI Orbigny.

1835. Voy. Am. Mér., vol. 5, Moll., p. 60, pl. 3, figs. 1–2. Valparaiso; Patagonian, Peruvian, and West Indian regions.

Superfamily ŒGOPSIDA.

Family OMMATOSTREPHIDÆ.

Genus OMMASTREPHES Orbigny.

OMMASTREPHES GIGAS Orbigny.

1835. Voy. Am. Mér., vol. 5, Moll., p. 50, pl. 4. Peruvian region; Valparaiso to Arica.

Genus SYMPLECTOTEUTHIS Pfeffer.

SYMPLECTOTEUTHIS OUALANIENSIS Lesson.

1829. Voy. Coquille, Moll., vol. 2, p. 240, pl. 1, fig. 1. Indo-Pacific region; Cocos Island; Gulf of Panama.

Genus STEENSTRUPIOLA Pfeffer.

STEENSTRUPIOLA CHILENSIS Pfeffer.

1884. Ceph. Hamburg Mus., p. 16, fig. 20. Peruvian region.

Genus CUCIOTEUTHIS Steenstrup.

CUCIOTEUTHIS UNGUICULATUS Molina.

1782. Saggio Stor. Nat. Chile, p. 199.—Owen, Trans. Zool. Soc. Lond., vol. 11, pt. 5, p. 150, pls. 30–32. Chile.

Family BATHYTEUTHIDÆ.

Genus BATHYTEUTHIS Hoyle.

BATHYTEUTHIS ABYSSICOLA Hoyle.

1885. Challenger, Sci. Results, p. 272, fig. 108. Chall. Ceph. p. 168. Eastern Pacific.

Family MASTIGOTEUTHIDÆ.

Genus MASTIGOTEUTHIS Verrill.

MASTIGOTEUTHIS DENTATA Hoyle.

1904. Bull. Mus. Comp. Zool., vol. 43, p. 34, pl. 6, figs. 8–11. Galapagos Islands. Gulf of Panama.

Family ONYCHOTEUTHIDÆ.

Genus ONYCHOTEUTHIS Lichtenstein.

ONYCHOTEUTHIS BRACHYPTERA Pfeffer.

1884. Ceph. Hamburg Mus., p. 20, fig. 26. Peruvian region.

Genus TELEOTEUTHIS Verrill. (*Onychia* Lesueur.)

TELEOTEUTHIS PLATYPTERA Orbigny.

1835. Voy. Am. Mér., vol. 5, Moll., p. 41, pl. 3, figs. 8–11. Indo-Pacific region. Chilean coast, off Valdivia.

TELEOTEUTHIS PERATOPTERA Orbigny.

1835. Voy. Am. Mér., vol. 5, Moll., p. 39, pl. 3, figs. 5–7. Indo-Pacific region. Juan Fernandez Island. Chilean coast.

Family ENOPLOTEUTHIDÆ.

Genus ABRALIOPSIS Joubin.

APRALIOPSIS HOYLEI Pfeffer.

1884. Ceph. Hamburg Mus., p. 17, fig. 22. Gulf of Panama to Acapulco, Mexico.

Genus PTERYGIOTEUTHIS H. Fischer.

PTERYGIOTEUTHIS GIARDI Fischer.

1896. Journ. de Conchyl., vol. 48, pp. 205–211, pl. 9. Gulf of Panama. Galapagos Islands north to Guaymas, Mexico. Also North Atlantic.

Family HISTIOTEUTHIDÆ.

Genus CALLITEUTHIS Verrill.

CALLITEUTHIS REVERSA Verrill.

1880. Am. Journ. Sci., vol. 20, p. 393; Trans. Conn. Acad. Sci., vol. 5, p. 295, pl. 46, figs. 1, 1*b*., 1880. North Atlantic. Gulf of Panama.

Family CRANCHIIDÆ.

Genus TAONIUS Steenstrup.

TAONIUS SCHNEEHAGENI Pfeffer.

1884. Ceph. Hamburg Mus., p. 23, fig. 31. Peruvian region.

Class GASTROPODA.

Subclass ANISOPLEURA.

Superorder OPISTHOBRANCHIATA.

Order PTEROPODA.

Suborder GYMNOSOMATA.

Family PNEUMODERMATIDÆ.

Genus PNEUMODERMON Cuvier.

PNEUMODERMON BOASI Pelseneer.

1888. Challenger Pterop., p. 30, pl. 2, fig. 3. Off Caldera, Chile, S. lat. 27°.

Genus DEXIOBRANCHÆA Boas.

DEXIOBRANCHÆA POLYCOTYLA Boas.

1886. Spolia Atlantica, vol. 4, p. 161. Challenger Pterop., p. 17, pl. 1, figs. 4, 5, 1888. Off Chile, S. lat. 27° to 37° 30′.

DEXIOBRANCHÆA SIMPLEX Boas.

1886. Spolia Atlantica, vol. 4, p. 160. Challenger Pterop., p. 16, pl. 1, fig. 3, 1888. Off Caldera, Chile, in S. lat. 27°.

Suborder THECOSOMATA.

Family CAVOLINIIDÆ.

Genus CAVOLINA Abildgaard.

CAVOLINA GIBBOSA Rang.

1836. *Hyalæa gibbosa* Rang, in Orbigny, Voy. Am. Mér., p. 95, pl. 5, figs. 16–25. Southeast Pacific, Atlantic, and Indian seas.

CAVOLINA INFLEXA Lesueur.

1813. *Hyalæa inflexa* Lesueur, Nouv. Bull. Soc. Philom., vol. 3, p. 285, pl. 5, fig. 3. Eastern Pacific from N. lat. 13° to S. lat. 42°. Also Atlantic.

CAVOLINA LONGIROSTRIS Lesueur.

1822. *Hyalæa longirostris* Lesueur, Dict. Sci. Nat., vol. 22, p. 81.—Orbigny, Voy. Am. Mér., p. 101, pl. 6, figs. 11 to 15, 1836. S. lat. 12° to N. lat. 23°. Also Atlantic.

CAVOLINA TELEMUS Linnæus, var. **OCCIDENTALIS** Dall.

1758. *Monoculus telemus* Linnæus, Syst. Nat., 10th ed., p. 1059. *Hyalæa tridentata* (Forskal) Boas, Spolia Atlantica, p. 115, pl. 1, figs. 8, 9; pl. 2, fig. 19; pl. 4, fig. 66; pl. 6, fig. 100, 1886. Off the west coast of South America and the Galapagos Islands. Also North Pacific.

CAVOLINA UNCINATA Rang.

1836. *Hyalæa uncinata* Rang in Orb. Voy. Am. Mér., p. 93, pl. 5, figs. 11–13. Cape St. Lucas, Lower California, south to Ecuador and the Galapagos Islands. Also Atlantic.

Genus CLIO Linnæus.

CLIO ANTARCTICA Dall.

1908. Smithsonian Misc. Coll., vol. 50, p. 501. *Hyalæa australis* Orbigny Voy. Am. Mér., p. 117, pl. 8, figs. 9–11, 1836; not of Peron, 1816. Southeastern Pacific, also near Cape of Good Hope.

CLIO PYRAMIDATA Linnæus.

1767. Syst. Nat., 12th ed., p. 1094. *Cleodora lanceolata* Souleyet, Zool. Bonite, vol. 2, p. 179, pl. 6, figs. 17–25, 1852. Southeastern Pacific, in S. lat. 27° 11′. Also Atlantic.

CLIO SULCATA Pfeffer.

1879. *Cleodora sulcata* Pfeffer, Monatsb. k. Preuss. Akad. Wiss., p. 240, figs. 11, 12. Off Manta, Ecuador, and southward to the Antarctic.

CLIO (HYALOCYLIX) STRIATA Rang.

1828. *Creseis striata* Rang, Ann. Sci. Nat., ser. 1, vol. 13, p. 315, pl. 16, fig. 7. Off coast of Chile. Also Atlantic.

Genus CRESEIS (Rang) Sowerby.

CRESEIS SUBULA Quoy and Gaimard.

1827. Ann. Sci. Nat., ser. 1, vol. 10, p. 233, pl. 8*D*, figs. 1, 2, 3 (as *Cleodora*). Eastern Pacific. Also Atlantic, etc.

Genus STYLIOLA (Lesueur) Gray.

STYLIOLA ACICULA Rang.

1828. *Creseis acicula* Rang, Ann. Sci. Nat., ser. 1, vol. 13, p. 318, pl. 17, fig. 6. Eastern Pacific. Also Atlantic.

STYLIOLA CONICA Eschscholtz.

1829. *Creseis conica* Eschscholtz, Zool. Atlas, p. 17, pl. 15, fig. 3. Eastern Pacific. Also Atlantic.

STYLIOLA VIRGULA Rang.

1828. *Creseis virgula* Rang, Ann. Sci. Nat., ser. 1, vol. 13, p. 316, fig. 2. Southeastern Pacific, off Juan Fernandez Island. Also Atlantic.

STYLIOLA (BOASIA) CHIERCHIÆ Boas.

1886. *Cleodora chierchiæ* Boas, Spolia Atlantica, p. 62, pl. 3, fig. 39*ter*. Tropical eastern Pacific. Also Atlantic.

Genus CUVIERINA Boas.

CUVIERINA COLUMELLA Rang.

1828. *Cuvieria columella* Rang, Ann. Sci. Nat., ser. 1, vol. 13, p. 323, pl. 45, figs. 1–8. Eastern Pacific from N. lat. 23° to S. lat. 42°. Also Atlantic.

Family LIMACINIDÆ.

Genus LIMACINA Lamarck.

LIMACINA BULIMOIDES Orbigny.

1836. *Atlanta bulimoides* Orbigny, Voy. Am. Mér., p. 179, pl. 12, figs. 36–38. Temperate and tropical eastern Pacific. Also Atlantic.

LIMACINA LESUEURI Orbigny.

1836. *Atlanta lesueuri* Orbigny, Voy. Am. Mér., p. 177, pl. 20, figs. 12–15. Eastern Pacific to S. lat. 42°. Also Atlantic.

LIMACINA TROCHIFORMIS Orbigny.

1836. *Atlanta trochiformis* Orbigny, Voy. Am. Mér., p. 177, pl. 12, figs. 29–31. Eastern Pacific to S. lat. 30°. Also Atlantic.

Genus EMBOLUS Jeffreys.

EMBOLUS INFLATUS Orbigny.

1836. *Atlanta inflata* Orbigny, Voy. Am. Mér., p. 174, pl. 12, figs. 16–19. Eastern Pacific from N. lat. 42° to S. lat. 40°. Also Atlantic.

Genus PERACLE Forbes.

PERACLE RETICULATA Orbigny.

1836. *Atlanta reticulata* Orbigny, Voy. Am. Mér., p. 178, pl. 12, figs. 32–35, 39. Eastern Pacific in S. lat. 20°. Also Atlantic and Mediterranean.

Order TECTIBRANCHIATA.

(*CEPHALASPIDEA.*)

Family ACTEONIDÆ.

Genus ACTEON Montfort.

ACTEON VENUSTUS Orbigny.

1840. *Tornatella venusta* Orbigny, Voy. Am. Mér., p. 399, pl. 56, figs. 4, 5, 6. Paita, Peru.

Family BULLARIIDÆ.

Genus BULLARIA Rafinesque.

BULLARIA ASPERSA A. Adams.

1850. *Bulla aspersa* Adams, Thes. Con., vol. 2, p. 578, pl. 123, fig. 78. Panama to Paita, Peru.

BULLARIA GOULDIANA Pilsbry.

1898. *Bulla gouldiana* Pilsbry, Man. Con., vol. 15, p. 340, pl. 36, figs. 22–24. San Pedro, Cal., southward to the Gulf of California, Mazatlan, and Guayaquil.

BULLARIA PUNCTULATA A. Adams.

1850. *Bulla punctulata* Adams, Thes. Con., p. 604, pl. 123, fig. 77. Gulf of California to the Lobos Islands, Peru.

Family AKERATIDÆ.

Genus HAMINEA Leach.

HAMINEA PERUVIANA Orbigny.

1837. *Bulla peruviana* Orbigny, Voy. Am. Mér., p. 211, pl. 19, figs. 4, 5 (*B. hydatis* on plate). Callao, Peru.

(*ANASPIDEA.*)

Family AGLAJIDÆ.

Genus AGLAJA Renier.

AGLAJA MACULATA Orbigny.

1837. *Posterobranchea maculata* Orbigny, Voy. Am. Mér., p. 203, pl. 17, figs. 6–9. Valparaiso and Juan Fernandez Island.

Family APLYSIIDÆ.

Genus TETHYS Linnæus.

TETHYS CHIERCHIANA Mazzarelli and Zuccard.

1889. *Aplysia chierchiana* Mazzarelli and Zuccard, Bol. Soc. Nat. Napoli, vol. 3, p. 52. San Lorenzo Island. Callao, Peru.

TETHYS INCA Orbigny.

1837. *Aplysia inca* Orbigny, Voy. Am. Mér., p. 207, pl. 14, fig. 13. Callao, Peru.

TETHYS LESSONI Rang.

1828. *Aplysia lessoni* Rang, Mon. Aplysia, p. 60, pl. 14. Paita, Peru.

TETHYS NIGRA Orbigny.

1837. *Aplysia nigra* Orbigny, Voy. Am. Mér., p. 209, pl. 18, figs. 1–2. Callao, Peru.

TETHYS RANGIANA Orbigny.

1837. *Aplysia rangiana* Orbigny, Voy. Am. Mér., p. 210, pl. 17, figs. 11–13. Paita, Peru.

Genus APLYSIOPSIS Bergh.

APLYSIOPSIS JUANINA Bergh.

1898. Bergh, in Plate, Fauna Chilensis, vol. 1, p. 483, pl. 28, figs. 1–25, pl. 29, fig. 1. Juan Fernandez Island.

Genus DOLABELLA Lamarck.

DOLABELLA GUAYAQUILENSIS Petit.

1868. Sowerby, Con. Icon., vol. 16, pl. 2, figs. 6 *a–b*. Guayaquil.

(*NOTASPIDEA.*)

Family PLEUROBRANCHIDÆ.

Genus PLEUROBRANCHUS Cuvier.

PLEUROBRANCHUS PLATEI Bergh.

1898. Fauna Chilensis, vol. 1, p. 494. Calbuco, Chile.

PLEUROBRANCHUS PATAGONICUS Orbigny.

1837. Voy. Am. Mér., p. 204, pl. 17, figs. 4, 5. Talcahuano, Chile. Also south of the Rio Negro on the Atlantic coast of Patagonia.

Genus PLEUROBRANCHÆA Leue.

PLEUROBRANCHÆA MACULATA Quoy and Gaimard.

1832. Voy. Astrolabe, Zool., vol. 5, pt. 2, p. 301, pl. 22, figs. 11–14. Plate, Fauna Chilensis, vol. 1, p. 492, pl. 29, figs. 2–9, 1898. Juan Fernandez Island.

Order NUDIBRANCHIATA.

(*CLADOHEPATICA.*)

Family AEOLIDIIDÆ.

Genus AEOLIDIA Cuvier.

AEOLIDIA LOTTINI Lesson.

1830. *Aeolis lottini* Lesson, Voy. Coq., p. 290, pl. 14, figs. 6 *g–n*. Southern Chile.

AEOLIDIA PAPILLOSA (Linnæus) Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 540. Chile.

AEOLIDIA SEROTINA (Linnæus) Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 541, pl. 31, figs. 26–31. Talcahuano and Tumbes, Chile.

Genus CRATENA Bergh.

CRATENA CAVANCA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 545, pl. 31, figs. 32–34. Cavancha, Chile.

CRATENA PUSILLA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 547, pl. 31, figs. 35–37. Juan Fernandez Island.

Genus PHIDIANA Gray.

PHIDIANA EXIGUA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 559, pl. 32, figs. 16–18. Coquimbo, Chile.

PHIDIANA INCA Orbigny.

1837. *Aeolis inca* Orbigny, Voy. Am. Mér., p. 195, pl. 13, figs. 1–7. Callao to Talcahuano, Chile.

PHIDIANA NATANS Orbigny.

1837. *Aeolis natans* Orbigny, Voy. Am. Mér., p. 195, pl. 13, figs. 8–10. Off Peru, S. lat. 13°.

Genus FIONA Hancock and Embleton.

FIONA PINNATA Eschscholtz.

1831. *Aeolidia pinnata* Eschscholtz, Zool. Atlas, pt. 4, p. 14, pl. 19, fig. 1. Eastern Pacific; off Sitka, Alaska, and southward. Pelagic.

FIONA MARINA Forskål, var. **PACIFICA** Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 560. Juan Fernandez Island and Talcahuano, Chile.

Genus GLAUCILLA Bergh.

GLAUCILLA DISTICHOICA Orbigny.

1837. *Glaucus distichoicus* Orbigny, Voy. Am. Mér., p. 196, pl. 14, figs. 1–3. Off Peru, S. lat. 20°.

Family PHYLLIRHOIDÆ.

Genus PHYLLIRHOË Peron and Lesueur.

PHYLLIRHOË ROSEA Orbigny.

1836. *Phyllirhoë roseum* Orbigny, Voy. Am. Mér., p. 183, pl. 20, figs. 16–17. Eastern Pacific S. lat. 36°.

Family PLEUROPHYLLIDIIDÆ.

Genus PLEUROPHYLLIDIA Meckel.

PLEUROPHYLLIDIA CUVIERI Orbigny.

1837. *Diphyllidia cuvieri* Orbigny, Voy. Am. Mér., p. 199, pl. 17, figs. 1–3. Paita, Peru, to Valparaiso, Chile, in 7–8 fathoms.

Family TRITONIIDÆ.

Genus TRITONIA Cuvier.

TRITONIA (CANDIELLA) AUSTRALIS Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 536, pl. 31, figs. 17–25. Calbuco, Chile. Juan Fernandez Island.

(*HOLOHEPATICA.*)

Family DORIDIDÆ.

(*CRYPTOBRANCHIATA.*)

Genus ARCHIDORIS Bergh.

ARCHIDORIS? FONTAINEI Orbigny.

1837. *Doris fontainei* Orbigny, Voy. Am. Mér., p. 189, pl. 15, figs. 1–3. Valparaiso, Tumbes, Chile.

ARCHIDORIS? INCERTA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 504, pl. 29, figs. 21–25. Tumbes, Chile.

Genus ANISODORIS Bergh.

ANISODORIS MARMORATA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 515, pl. 30, figs. 5–7. Coquimbo, Chile.

ANISODORIS PUNCTUOLATA Orbigny.

1837. *Doris punctuolata* ORBIGNY, Voy. Am. Mér., p. 187, pl. 16, figs. 4–6.—BERGH, Fauna Chilensis, vol. 1, p. 509, pl. 29, figs. 31–34; pl. 30, figs. 1–2, 1898. Callao, Peru, south to Talcahuano, Chile.

ANISODORIS TESSELLATA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 518, pl. 30, figs. 8–11. Molle Bay, Chile, 8 fathoms.

ANISODORIS VARIOLATA Orbigny.

1837. *Doris variolata* ORBIGNY, Voy. Am. Mér., p. 186, pl. 16, figs. 1–3.—BERGH, Fauna Chilensis, vol. 1, p. 512, pl. 30, figs. 3–4, 1898. Valparaiso and Tumbes, Chile.

Genus TRIPPA Bergh.

TRIPPA ? HISPIDA Orbigny.

1837. *Doris hispida* ORBIGNY, Vol. Am. Mér., p. 188, pl. 15, figs. 4–6. Calbuco, Valparaiso, and Tumbes, Chile.

Genus TYRINNA Bergh.

TYRINNA NOBILIS Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 524, pl. 30, figs. 21–29; pl. 32, figs. 21–24. Calbuco, Chile.

Genus PLATYDORIS Bergh.

PLATYDORIS PUNCTATELLA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 521, pl. 30, figs. 12–20. Isla de Pajargo, Chile.

Genus CHROMODORIS Alden and Hancock.

CHROMODORIS JUVENCA Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 531, pl. 31, figs. 4–11. Isla de Pajargo, Chile, and Juan Fernandez Island.

(*POROSTOMATA.*)

Family DORIOPSIDIDÆ.

Genus DORIOPSIS Pease.

DORIOPSIS PERUVIANA Orbigny.

1837. *Doris peruviana* ORBIGNY, Voy. Am. Mér., p. 188, pl. 15, figs. 7–9. Galapagos Islands and Callao, Peru, and south to Valparaiso, Chile.

(*PHANEROBRANCHIATA.*)

Family POLYCERATIDÆ.

Genus EUPLOCAMUS Philippi.

EUPLOCAMUS MACULATUS Bergh.

1898. Plate, Fauna Chilensis, vol. 1, p. 534, pl. 31, figs. 12–16. Juan Fernandez Island.

Order PULMONATA.

Suborder BASOMMATOPHORA.

Superfamily AKTEOPHILA.

Family AURICULIDÆ.

Genus AURICULA Lamarck.

AURICULA STAGNALIS Orbigny.

1835. ORBIGNY in Guerin, Mag. de Zoöl., p. 23; Voy. Am. Mér., p. 325, pl. 42, figs. 7–8, 1837. Panama to Guayaquil.

Genus MELAMPUS Montfort.

MELAMPUS ACROMELAS Troschel.

1852. *Conovulus acromelas* TROSCHEL, Arch. f. Nat., vol. 18, pt. 1, p. 197, pl. 6, fig. 2. Peru (Tschudi).

MELAMPUS LUTEUS Quoy and Gaimard.

1832. Voy. Astrolabe, Zool., vol. 2, p. 163, pl. 13, figs. 25–27. Tumaco Island, Guayaquil. Peru (Tschudi).

MELAMPUS PIRIFORMIS Petit.

1842. *Auricula piriformis* PETIT, Proc. Zool. Soc., p. 202.—KÜSTER, Conch. Cab., *Auricula*, p. 37, pl. 5, figs. 12–14, 1844. Tumaco Island, Guayaquil.

MELAMPUS (SIONA) FRUMENTUM Petit.

1842. *Conovulus frumentum* PETIT, Rev. Zoöl., p. 32. Callao, Peru.

MELAMPUS (SIONA) AVENA Petit.

1842. *Conovulus avena* PETIT, Rev. Zoöl., p. 106.—KÜSTER, Conch. Cab., *Auricula*, p. 48, pl. 7, figs. 17–19, 1844. Valparaiso, Chile.

MELAMPUS (DETRACIA) GLOBULUS Ferussac.

1835. ORBIGNY, Mag. de Zoöl., p. 23, no. 4.—PFEIFFER, Nov. Conch., vol. 1, p. 23, pl. 6, figs. 23–25. Tumaco Island, Guayaquil.

Genus TRALIA Gray.

TRALIA (ALEXIA) REFLEXILABRIS Orbigny.

1840. *Auricula reflexilabris* ORBIGNY, Voy. Am. Mér., p. 326, pl. 42, figs. 1–3. Callao, salt marshes.

Genus MARINULA King.

MARINULA ACUTA Orbigny.

1835. *Auricula acuta* ORBIGNY, in Guerin, Mag. de Zoöl., 1835, p. 23, no. 2; Voy. Am. Mér., p. 326, pl. 42, figs. 4–6, 1837. Panama to Guayaquil.

MARINULA MARINELLA Küster.

1844. *Auricula marinella* KÜSTER, Conch. Cab., *Auricula*, p. 24, pl. 3, figs. 4, 5. Callao, Peru, south to the island of Chiloë.

MARINULA PEPITA King.

1831. Zoöl. Journ., vol. 5, p. 344.—H. and A. ADAMS, Gen. Rec. Moll., vol. 2, p. 247, pl. 83, fig. 2*a*, 1856. Guayaquil, south to the island of Chiloë.

Superfamily PETROPHILA.

Family SIPHONARIIDÆ.

Genus SIPHONARIA Sowerby.

SIPHONARIA COSTATA Sowerby.

1835. Proc. Zool. Soc., p. 6.—REEVE, Con. Icon., vol. 9, pl. 4, fig. 19, 1856. Guacomayo, Central America, south to Valparaiso, Chile.

SIPHONARIA GIGAS Sowerby.

1825. Tankerville Cat., App., p. VI.—REEVE, Con. Icon., pl. 1, fig. 3, 1856. Acapulco, Mexico, to Peru. Cocos and Galapagos Islands.

SIPHONARIA LÆVIUSCULA Sowerby.

1835. Proc. Zool. Soc., p. 7.—REEVE, Con. Icon., vol. 9, pl. 1, fig. 5, 1856. Valparaiso, southward to the Magellan Straits.

SIPHONARIA LESSONI Blainville.

1824. Dict. Sci. Nat., vol. 32, p. 267, pl. 44, fig. 2. Nicaragua, and south to the Magellan Straits.

SIPHONARIA LINEOLATA Sowerby.

1835. Proc. Zool. Soc., p. 6.—REEVE, Con. Icon., vol. 9, pl. 3, fig. 11, 1856. Guayaquil, south to the Chilean coast.

SIPHONARIA MAURA Sowerby.

1835. Proc. Zool. Soc., p. 7.—REEVE, Con. Icon., vol. 9, pl. 7, fig. 36, 1856. Magdalena Bay, Lower California, south to Guayaquil. Chile (Dautzenberg).

SIPHONARIA TENUIS Philippi.

1860. Atacama Reise, p. 181, Zoöl., pl. 7, figs. 5*a–c*. Paita, Peru, to Valparaiso, Chile.

Genus WILLIAMIA Monterosato.

WILLIAMIA GALAPAGANA Dall.

1909. *Nacella subspiralis* WIMMER, Sitzb. k. Akad. Wiss. Wien., vol. 80, p. 41, 1879, not of CARPENTER, 1866. Galapagos Islands, Panama Bay, etc., on floating seaweed.

Family GADINIIDÆ.

Genus GADINIA Gray.

GADINIA PERUVIANA Sowerby.

1835. *Mouretia peruviana* Sowerby, Proc. Zool. Soc., p. 6; Zoöl. Beechey's Voy., Moll., p. 147, pl. 39, fig. 6, 1839. Gulf of California, south to Talcahuano, Chile.

Suborder STYLOMMATOPHORA.

Superfamily DITREMATA.

Family ONCHIDIIDÆ.

Genus ONCHIDIUM Buchanan.

ONCHIDIUM CHILENSE Hupé.

1854. Gay, Hist. Chile, p. 120. San Carlos de Chiloë.

ONCHIDIUM JUANFERNANDEZIANA Wissell.

1898. Zoöl. Jahrb., suppl. vol. 4, pp. 583–640, pl. 1–3. Juan Fernandez Island.

ONCHIDIUM LANUGINOSUM Hupé.

1854. Gay, Hist. Chile, p. 121. San Carlos de Chiloë.

Superorder CTENOBRANCHIATA.

(*STREPTONEURA*.)

Order ORTHODONTA.

Superfamily TOXOGLOSSA.

Family TEREBRIDÆ.

Genus TEREBRA Bruguière.

TEREBRA GUAYAQUILENSIS E. A. Smith.

1880. Proc. Zool. Soc., p. 481. Guayaquil.

TEREBRA STRIGATA Sowerby.

1825. Tankerville Cat., App., p. xxv; Thes. Con., p. 151, pl. 41, fig. 10, 1847. Cape St. Lucas and Gulf of California south to Paita, Peru, and the Galapagos Islands.

TEREBRA ASPERA Hinds.

1843. Proc. Zool. Soc., p. 154.—Sowerby, Thes. Con., p. 174, pl. 43, fig. 44, 1847. Guayaquil and Paita, Peru.

TEREBRA GEMMULATA Kiener.

1839. Kiener, Icon., *Terebra*, p. 15, pl. 5, figs. 11, 11*a*. Chile.

TEREBRA LARVÆFORMIS Hinds.

1843. Proc. Zool. Soc., p. 155.—Sowerby, Thes. Con., p. 176, pl. 43, figs. 46, 47, 1847. Guayaquil.

TEREBRA PLICATA Gray.

1834. Proc. Zool. Soc., p. 61.—Tryon, Man., vol. 7, p. 24, pl. 7, fig. 20, 1885. Guayaquil.

Family CONIDÆ.

Genus CONUS Linnæus.

CONUS BRUNNEUS Mawe.

1828. Wood, Ind. Test., suppl. pl. 3, fig. 1.—Sowerby, Con. Ill., *Conus*, pl. 57, fig. 88; var. fig. 63. Central America and southward to Manta, Ecuador, and the Galapagos Islands.

CONUS FERGUSONI Sowerby.

1875. Proc. Zool. Soc., p. 145, pl. 15, fig. 1. Panama and southward. Galapagos Islands.

CONUS LUCIDUS Mawe.

1828. Wood, Index Test. suppl. pl. 3, fig. 4. Gulf of Panama; Paita, Peru; and Galapagos Islands.

CONUS MONILIFER Sowerby.

1833. Proc. Zool. Soc., p. 54. Con. Ill., pl. 33, fig. 37, 1833. Magdalena Bay, Lower California, and south to Sechura Bay, Peru.

CONUS PRINCEPS Linnæus.

1758. Syst. Nat., 10th ed., p. 713.—Sowerby, Con. Ill., figs. 30*a*–30*b*, 1833. Panama, south to Paita, Peru.

CONUS PURPURASCENS Broderip.

1833. Proc. Zool. Soc., p. 54.—Sowerby, Con. Ill., fig. 13, 1833 Gulf of California and south to Paita, Peru.

CONUS RECURVUS Broderip.

1833. Proc. Zool. Soc., p. 54.—Sowerby, Con. Ill., fig. 36, 1833. Guaymas, Mexico, to Guayaquil.

CONUS TORNATUS Broderip.

1833. Proc. Zool. Soc., p. 53.—Sowerby, Con. Ill., fig. 25, 1833. Ecuador coast.

CONUS XIMENES Gray.

1839. Zool. Beech. Voy. p. 119, pl. 33, fig. 2. Gulf of California to Sechura Bay, Peru.

Family TURRITIDÆ.

Genus SURCULA H. and A. Adams.

SURCULA MACULOSA Sowerby.

1833. *Pleurotoma maculosa* Sowerby, Proc. Zool. Soc., p. 135.—Reeve, Con. Icon., *Pleurotoma*, fig. 45. Gulf of California to Guayaquil.

SURCULA MAURA Sowerby.

1833. *Pleurotoma maura* Sowerby, Proc. Zool. Soc., p. 134.—Reeve, Con. Icon., *Pleurotoma*, fig. 47 (not *P. maura* Kiener). Guayaquil.

SURCULA OLIVACEA Sowerby.

1833. *Pleurotoma olivacea* Sowerby, Proc. Zool. Soc., p. 136.—Reeve, Con. Icon., *Pleurotoma*, fig. 27. Guayaquil, Salango, Ecuador.

Genus DRILLIA Gray.

DRILLIA ADUSTA Sowerby.

1833. *Pleurotoma adusta* SOWERBY, Proc. Zool. Soc., p. 137. Monte Cristi, Ecuador.

DRILLIA ATERRIMA Sowerby.

1833. *Pleurotoma aterrima* SOWERBY, Proc. Zool. Soc., p. 137.—REEVE, Con. Icon., *Pleurotoma*, fig. 100. Monte Cristi, Ecuador.

DRILLIA BOTTÆ Valenciennes.

1840. *Pleurotoma bottæ* (VALENCIENNES) KIENER, Icon., p. 33, pl. 15, fig. 12. Gulf of California to Guayaquil.

DRILLIA CLAVATA Sowerby.

1833. *Pleurotoma clavata* SOWERBY, Proc. Zool. Soc., p. 135.—REEVE, Con. Icon., *Pleurotoma*, fig. 132. Ecuador coast.

DRILLIA COLLARIS Sowerby.

1833. *Pleurotoma collaris* SOWERBY, Proc. Zool. Soc., p. 139.—REEVE, Con. Icon., *Pleurotoma*, fig. 120. Ecuador coast.

DRILLIA DISCORS Sowerby.

1833. *Pleurotoma discors* SOWERBY, Proc. Zool. Soc., p. 137.—REEVE, Con. Icon., *Pleurotoma*, fig. 38. Ecuador coast.

DRILLIA LUCTUOSA Hinds.

1843. *Pleurotoma luctuosa* HINDS, Proc. Zool. Soc., p. 40; Zoöl. Sulph. Voy., p. 18, pl. 6, fig. 4 (as *Clavatula*). Magdalena Bay, Lower California, and south to Guayaquil.

DRILLIA NIGERRIMA Sowerby.

1833. *Pleurotoma nigerrima* SOWERBY, Proc. Zool. Soc., p. 137.—REEVE, Con. Icon., *Pleurotoma*, fig. 102. Gulf of California to Ecuador.

DRILLIA ROSEA Sowerby.

1833. *Pleurotoma rosea* SOWERBY, Proc. Zool. Soc., p. 134.—REEVE, Con. Icon., *Pleurotoma*, fig. 43. Nicaragua coast and southward to Ecuador.

DRILLIA RUDIS Sowerby.

1833. *Pleurotoma rudis* SOWERBY, Proc. Zool. Soc., p. 134.—REEVE, Con. Icon., *Pleurotoma*, fig. 53. Mazatlan, Mexico, south to Ecuador and the Galapagos Islands.

DRILLIA RUSTICA Sowerby.

1833. *Pleurotoma rustica* SOWERBY, Proc. Zool. Soc., p. 138.—REEVE, Con. Icon., *Pleurotoma*, fig. 91. Mazatlan, Mexico, and south to Ecuador.

DRILLIA SOWERBYI Reeve.

1833. *Pleurotoma sowerbyi* REEVE, Con. Icon., errata, and fig. 49. Ecuador coast.

DRILLIA ZONULATA Reeve.

1843. *Pleurotoma zonulata* REEVE, Syst. Con., vol. 2, pl. 234, fig. 10; Con. Icon., *Pleurotoma*, fig. 39. Coast of Ecuador.

Genus CLATHURELLA Carpenter.

CLATHURELLA ASPERA Hinds.

1843. *Pleurotoma aspera* HINDS, Proc. Zool. Soc., p. 40; Zoöl. Sulph. Voy., p. 19, pl. 6, figs. 7, 8, 1844. Guayaquil.

Genus MANGILIA (Leach) Risso.

MANGILIA FORMICARIA Sowerby.

1833. *Pleurotoma formicaria* SOWERBY, Proc. Zool. Soc., p. 139.—REEVE, Con. Icon., *Pleurotoma*, fig. 247. Iquique.

MANGILIA ORDINARIA E. A. Smith.

1882. Ann. Mag. Nat. Hist., p. 216.—TRYON, Man. Con., vol. 6, p. 250, pl. 34, fig. 97, 1884. Chile and Peru.

MANGILIA RUFOCINCTA E. A. Smith.

1882. Ann. Mag. Nat. Hist., p. 215. Porto Cavallo.

Family CANCELLARIIDÆ.

Genus CANCELLARIA Lamarck.

CANCELLARIA ALBIDA Hinds.

1843. Proc. Zool. Soc., p. 47.—SOWERBY, Thes. Con., vol. 2, p. 442, pl. 94, fig. 43, 1848. Coast of Nicaragua and south to Guayaquil.

CANCELLARIA BREVIS Sowerby.

1832. Proc. Zool. Soc., p. 52; Thes. Con., pl. 93, fig. 21, 1848. Mazatlan, Mexico, and south to Guayaquil.

CANCELLARIA BUCCINOIDES Sowerby.

1832. Proc. Zool. Soc., p. 54; Con. Ill., vol. 2, fig. 11, 1832. Coast of Nicaragua and southward to Mejillones, Chile.

CANCELLARIA BULLATA Sowerby.

1832. Proc. Zool. Soc., p. 53; Con. Ill., fig. 35, 1832. Gulf of Panama and southward to Iquique.

CANCELLARIA CASSIDIFORMIS Sowerby.

1832. Proc. Zool. Soc., p. 53; Con. Ill., fig. 22, 1832. Gulf of California to Paita, Peru.

CANCELLARIA CHRYSOSTOMA Sowerby.

1832. Proc. Zool. Soc., p. 54; Thes. Con., p. 451, pl. 94, fig. 39. Gulf of Panama to Paita, Peru.

CANCELLARIA CLAVATULA Sowerby.

1832. Proc. Zool. Soc., p. 52; Con. Ill., fig. 12, 1832. Panama to Paita, Peru.

CANCELLARIA CORRUGATA Hinds.

1843. Proc. Zool. Soc., p. 48.—SOWERBY, Thes. Con., vol. 2, p. 448, pl. 96, figs. 92–93, 1848. Guayaquil.

CANCELLARIA EXOPLEURA Dall.

1908. Albatross Rep., p. 294. Panama Bay to Paita, Peru.

CANCELLARIA MITRIFORMIS Sowerby.

1832. Proc. Zool., Soc. p. 51; Con. Ill., fig. 15, 1832. Panama to Pacasmayo, Peru.

CANCELLARIA OBESA Sowerby.

1832. Proc. Zool. Soc., p. 52; Thes. Con., vol. 2, p. 441, pl. 95, fig. 37, 1848. Gulf of California to Guayaquil.

CANCELLARIA PARVA Philippi.

1860. Atacama Reise, p. 187, pl. 7, fig. 18. Paposo, Chile.

CANCELLARIA TESSELATA Sowerby.

1832. Proc. Zool. Soc., p. 51; Thes. Con., vol. 2, pl. 93, fig. 32, 1848. Gulf of California to Guayaquil.

CANCELLARIA TUBERCULOSA Sowerby.

1832. Proc. Zool. Soc., p. 51; Con. Ill., fig. 36, 1833. Callao. Peru, south to Mejillones, Chile.

CANCELLARIA UNIPLICATA Sowerby.

1848. Thes. Con., vol. 2, pl. 93, fig. 35. Panama to Valparaiso.

Superfamily RHACHIGLOSSA.

Family OLIVIDÆ.

Genus OLIVA Martyn.

OLIVA ANGULATA Lamarck.

1810. Ann. du Mus., vol. 16, p. 310; Encycl. Méth., pl. 363, fig. 6. Magdalena Bay, Lower California, southward to Peru.

OLIVA KALEONTINA Duclos.

1836. Mon. *Oliva*, pl. 8, figs. 7, 8.—SOWERBY, Thes. Con., p. 10, pl. 333, figs. 92, 93, 1871. Cape St. Lucas and southward to Paita, Peru, and the Galapagos Islands.

OLIVA PERUVIANA Lamarck.

1810. Ann. du Mus., vol. 16, p. 317.—REEVE, Con. Icon., fig. 14. Whole Peruvian province from Paita, Peru, to Lota, Chile, and the Galapagos Islands.

OLIVA TESTACEA Lamarck.

1810. Ann. du Mus., vol. 16, p. 324.—MARTENS, Arch. Nat., vol. 63, p. 165, pl. 15, figs. 13, 14, 1897; and var. *philippii;* Idem, pl. 16, figs. 7, 12, 1897. Mazatlan, Mexico, and southward to Cobija, Chile.

Genus OLIVELLA Swainson.

OLIVELLA COLUMELLARIS Sowerby.

1825. Tankerville Cat., App., p. XXXIV.—REEVE, Con. Icon., *Oliva*, fig. 62, 1850. Central American coast and southward to Sechura Bay, Peru.

OLIVELLA SEMISTRIATA Gray.

1839. Zoöl. Beech. Voy., p. 130, pl. 36, fig. 10. Gulf of California to Sechura Bay, Peru.

OLIVELLA TERGINA Duclos.

1835. Mon. *Oliva*, pl. 2, figs. 13–16.—REEVE, Con. Icon., *Oliva*, fig. 80, 1850. Acapulco, Mexico, and southward to Paita, Peru.

OLIVELLA VOLUTELLA Lamarck.

1810. *Oliva volutella* LAMARCK, Ann. du Mus., vol. 16, p. 322.—DUCLOS, Mon. *Oliva*, pl. 6, figs. 5, 6, 1835. Gulf of California to Paita, Peru.

OLIVELLA ZONALIS Lamarck.

1810. *Oliva zonalis* LAMARCK, Ann. du Mus., vol. 16, p. 327.—REEVE, Con. Icon., *Oliva*, fig. 56, 1850. Mazatlan, Mexico, to Guayaquil.

Family MARGINELLIDÆ

Genus MARGINELLA Lamarck.

MARGINELLA CURTA Sowerby.

1832. Proc. Zool. Soc., p. 105; Thes. Con., vol. 1, p. 397, pl. 76, figs. 88, 89. Gulf of California and southward to Iquique, Chile.

MARGINELLA FRUMENTUM Sowerby.

1832. Proc. Zool. Soc., p. 57.—REEVE, Con. Icon., *Marginella*, fig. 71, 1865. Cape St. Lucas and south to Guayaquil and the Galapagos Islands.

MARGINELLA SAPOTILLA Hinds.

1844. Proc. Zool. Soc., p. 74.—SOWERBY, Thes. Con., vol. 1, p. 383, pl. 77, figs. 150, 151. Gulf of Panama to Peru.

Family VOLUTIDÆ.

Genus ADELOMELON Dall.

ADELOMELON MAGELLANICUS Lamarck.

1811. *Voluta magellanica* LAMARCK, Ann. du Mus., vol. 17, p. 69; Encycl. Méth., pl. 385, figs. 1*a*, 1*b*, 1816. Chiloë Island and southward to Magellan Straits, and on the Argentine coast and the Falkland Islands.

ADELOMELON ANCILLA Solander.

1786. Portland Museum, p. 137, No. 3061.—LAMARCK, Encycl. Méth., pl. 385, fig. 3, 1816. Magellanic region and northward to Puerto Montt, and Chiloë Island, Chile.

Family TURBINELLIDÆ.

Genus VASUM Bolten.

VASUM CÆSTUS Broderip.

1833. *Turbinella cæstus* BRODERIP, Proc. Zool. Soc., p. 8.—REEVE, Con. Icon., *Turbinella*, pl. 6, fig. 34*a*. San Diego, California, south to Ecuador.

Family MITRIDÆ.

Genus MITRA Martyn.

MITRA EFFUSA Swainson.

1835. Proc. Zool. Soc., p. 194.—REEVE, Con. Icon., *Mitra*, pl. 14, fig. 100, 1844. Gulf of Panama to the Galapagos Islands.

MITRA LENS Mawe.

1828. WOOD, Ind. Test., suppl. pl. 3, fig. 25. Mazatlan, Mexico, south to Paita. Peru, and the Galapagos Islands.

MITRA ORIENTALIS Gray.

1834. Griffith's Cuvier, pl. 40, fig. 5. Ancon. Peru, south to Iquique, Chile.

MITRA SEMIGRANOSA Von Martens.

1897. Arch. Nat., vol. 63, p. 178, pl. 16, figs. 24, 25. Ecuador coast and south to Chile.

MITRA SULCATA Swainson.

1825. Tankerville Cat., App., p. XXVI.—REEVE, Con. Icon., *Mitra*, pl. 22, fig. 176, 1844. West coast Central America and southward to Ecuador.

MITRA TRISTIS Swainson.

1835. *Tiara tristis* SWAINSON, Proc. Zool. Soc., p. 194.—REEVE, Con. Icon., *Mitra*, pl. 15, fig. 114, 1844. Mazatlan, Mexico, to Guayaquil and the Galapagos Islands.

Family FASCIOLARIIDÆ.

Genus FASCIOLARIA Lamarck.

FASCIOLARIA GRANOSA Broderip.

1832. Proc. Zool. Soc., p. 32.—REEVE, Con. Icon., *Fasciolaria*, fig. 6, 1847. West Mexico, Panama; Peru (Tschudi).

FASCIOLARIA PRINCEPS Sowerby.

1825. Tankerville Cat., App., p. XVI.—KIENER, Icon., *Fasciolaria*, p. 6, pls. 12, 13. Gulf of California to Peru and the Galapagos Islands.

Genus LATIRUS Montfort.

LATIRUS CERATUS Gray.

1828. In Wood, Ind. Test., suppl. pl. 5, fig. 15 (as *Murex*). Mazatlan, Mexico, to Manta, Ecuador, and the Galapagos Islands.

LATIRUS CONCENTRICUS Reeve.

1847. Con. Icon., *Turbinella*, figs. 2, 44. Acapulco, to Panama and Guayaquil.

Family BUCCINIDÆ.

Genus AUSTROFUSUS Kobelt.

AUSTROFUSUS FONTAINEI Orbigny.

1841. *Fusus fontainei* Orbigny, Voy. Am. Mér., p. 447, pl. 63, fig. 2. Callao, Peru, south to Valparaiso, Chile.

Genus ATRACTODON Charlesworth.

ATRACTODON PLUMBEUS Philippi.

1844. *Fusus plumbeus* Philippi, Abb., vol. 1, p. 108, pl. 1, fig. 3. Southern Chile and the Magellanic region; Puerto Montt; Chiloë.

Genus GALEODES Bolten.

GALEODES PATULUS Broderip.

1829. *Pyrula patula* Broderip and Sowerby, Zoöl. Journ., vol. 1, p. 377.—Gray, Beech. Voy., Zoöl., p. 115, pl. 34, fig. 10; pl. 35, figs. 1, 3. Central American coast; Gulf of Panama and southward.

Genus SOLENOSTEIRA Dall.

SOLENOSTEIRA FUSIFORMIS Blainville.

1832. *Purpura fusiformis* Blainville, Nouv. Ann. du Mus., vol. 1, pl. 11, fig. 7.—Reeve, Con. Icon., *Buccinum*, pl. 7, fig. 50, 1846. Gulf of Panama and southward to the Chincha Islands, Peru.

Family COLUBRARIIDÆ.

Genus COLUBRARIA Schumacher.

COLUBRARIA SOWERBYI Reeve.

1844. *Triton sowerbyi* Reeve, Con. Icon., *Triton*, fig. 65. Galapagos Islands.

Genus CANTHARUS Bolten.

CANTHARUS BOLIVIANUS Eydoux and Souleyet.

1852. *Buccinum bolivianum* Eydoux and Souleyet, Voy. Bonite, Zoöl., vol. 2, p. 610, pl. 41, figs. 22, 24. Cobija, Chile.

CANTHARUS DISTORTUS Gray.

1828. *Buccinum distortum* Gray, in Wood, Ind. Test., suppl. pl. 4, fig. 7. Panama to Guayaquil.

CANTHARUS ELEGANS Gray.

1833. *Triton* (*Pusio*) *elegans* Gray, in Griffith's Cuvier, vol. 12, p. 600, pl. 25, fig. 2; not of Orbigny, 1852. Mazatlan, Mexico, to Paita, Peru.

CANTHARUS GEMMATUS Reeve.

1846. *Buccinum gemmatum* Reeve, Con. Icon., fig. 49. Mazatlan, Mexico, to Guayaquil.

CANTHARUS INCA Orbigny.

1841. *Murex inca* Orbigny, Voy. Am. Mér., p. 455, pl. 78, fig. 3. Peruvian coast, Pacasmayo to Callao.

CANTHARUS JANELLI Kiener.

1835. *Purpura janelli* Kiener, Icon., *Purpura*, p. 122, pl. 38, fig. 89; not of Valenciennes, 1846. Paita, Peru, and the Chincha Islands.

CANTHARUS RINGENS Reeve.

1846. *Buccinum ringens* Reeve, Con. Icon., fig. 45. Panama to Guayaquil.

CANTHARUS SANGUINOLENTUS Duclos.

1833. *Purpura sanguinolenta* Duclos, Guérin, Mag. de Zoöl., vol. 5, p. 22, fig. 1. Mazatlan, and south to Guayaquil.

CANTHARUS VIBEX Broderip.

1832. Proc. Zool. Soc., p. 175 (unfigured). Gulf of Panama to Guayaquil.

Genus ENGINA Gray.

ENGINA CONTRACTA Reeve.

1846. *Ricinula contracta* Reeve, Con. Icon., *Ricinula*, fig. 32. Gulf of Panama to Guayaquil.

ENGINA CARBONARIA Reeve.

1846. *Ricinula carbonaria* Reeve, Con. Icon., fig. 22. Gulf of Panama to Manta, Ecuador, and the Galapagos Islands.

Family ALECTRIONIDÆ.

Genus ARCULARIA Link.

ARCULARIA LUTEOSTOMA Broderip and Sowerby.

1829. *Nassa luteostoma* Broderip and Sowerby, Zoöl. Journ., vol. 4, p. 376.—Gray, Beech. Voy., p. 127, pl. 36, fig. 3, 1839. Mazatlan to Panama. Peru (Tschudi).

ARCULARIA PAPOSANA Philippi.

1860. *Buccinum paposanum* Philippi, Atac. Reise, p. 188. Paposo, Chile.

Genus ALECTRION Montfort.

ALECTRION (HIMA) COMPLANATUS Powys.

1835. *Nassa complanata* Powys, Proc. Zool. Soc., p. 36.—Reeve, Con. Icon., *Nassa*, figs. 105, 107, 111*b*. Gulf of Panama south to S. lat. 25°.

ALECTRION (HIMA) DENTIFERUS Powys.

1835. *Nassa dentifera* Powys, Proc. Zool. Soc., p. 95.—Orbigny, Voy. Am. Mér., p. 432, pl. 61, figs. 22, 23, 1841. Gulf of Panama south to Valparaiso, Chile.

ALECTRION (HIMA) ESCALÆ Philippi.

1860. *Buccinum escalæ* PHILIPPI, Atac. Reise, p. 188, pl. 7, fig. 19. Mejillones, Chile, S. lat. 23°.

ALECTRION (HIMA) EXILIS Powys.

1835. *Nassa exilis* POWYS, Proc. Zool. Soc., p. 95.—REEVE, Con. Icon., *Nassa*, fig. 101*a*. Panama to Paita, Peru.

ALECTRION (HIMA) FESTIVUS Powys.

1835. *Nassa festiva* POWYS, Proc. Zool. Soc., p. 95.—REEVE, Con. Icon., *Nassa*, fig. 117. Panama to Guayaquil.

ALECTRION (HIMA) GAYII Kiener.

1835. *Buccinum gayii* KIENER, Icon., *Buccinum*, p. 71, pl. 21, fig. 79. Callao, Peru, southward to Magellan Straits.

ALECTRION INSCULPTUS Carpenter, var.?

Sechura Bay, Peru.

ALECTRION (HIMA) PANAMENSIS Philippi.

1851. *Buccinum panamense* PHILIPPI, Zeitschr. f. Mal., p. 61; not of ADAMS. Panama to Paita, Peru.

ALECTRION (HIMA) PLANICOSTATUS A. Adams.

1851. *Nassa planicostata* ADAMS, Proc. Zool. Soc., p. 108.—REEVE, Con. Icon., *Nassa*, fig. 96*b*. Paita.

ALECTRION (HIMA) SPARTA Marrat.

1897. *Nassa sparta* MARRAT, New forms of *Nassa*, p. 11, pl. 1, fig. 22. "West coast of South America."

ALECTRION (HIMA) VERSICOLOR C. B. Adams.

1852. *Nassa versicolor* ADAMS, Panama Shells, p. 66.—REEVE, Con. Icon., *Nassa*, fig. 110. Mazatlan, Mexico, to Paita, Peru.

ALECTRION (TRITIA) TÆNIOLATUS Philippi.

1845. *Buccinum tæniolatum* PHILIPPI, Arch. f. Naturg., vol. 11, p. 69.—HUPÉ, Hist. Chile, vol. 8, p. 207, pl. 4, fig. 7, 1854. Magellan Straits and northward to Coquimbo, Chile.

ALECTRION (TRITIA) TSCHUDII Troschel.

1852. *Nassa tschudii* TROSCHEL, Arch. f. Naturg., p. 173, pl. 5, fig. 4. Peru.

Genus NORTHIA Gray.

NORTHIA NORTHIÆ Gray.

1833. *Nassa northiæ* GRAY, in Griffith's Cuvier, pl. 30, fig. 2.—KIENER, Icon., *Buccinum*, p. 23, pl. 9, fig. 28, 1834. Gulf of Panama and south to Guayaquil.

Genus BUCCINANOPS Orbigny.

BUCCINANOPS PAYTENSIS Valenciennes.

1834. *Buccinum paytensis* VALENCIENNES, Kiener, Icon., p. 17, pl. 6, fig. 16. Paita, Peru.

Family COLUMBELLIDÆ.

Genus COLUMBELLA Lamarck.

COLUMBELLA FUSCATA Sowerby.

1832. Proc. Zool. Soc., p. 117; Thes. Con., *Columbella*, p. 114, pl. 36, figs. 21, 25, 1844. Gulf of California and southward to Paita, Peru, and the Galapagos Islands.

COLUMBELLA HÆMASTOMA Sowerby.

1832. Proc. Zool. Soc., p. 116; Thes. Con., *Columbella*, p. 111, pl. 36, fig. 5, 1844. Gulf of California and southward to Ecuador and the Galapagos Islands.

COLUMBELLA LABIOSA Sowerby.

1822. Gen. Sh., *Columbella*, fig. 2. Santa Elena, Guayaquil.

COLUMBELLA MAJOR Sowerby.

1832. Proc. Zool. Soc., p. 119; Thes. Con., *Columbella*, p. 110, pl. 36, figs. 3, 4, 1844. Gulf of California, south to Paita, Peru.

COLUMBELLA PAYTENSIS Lesson.

1830. Voy. Coq., vol. 2, pt. 1, p. 402.—Sowerby, Thes. Con., *Columbella*, p. 116, pl. 36, figs. 36, 37, 1844. Pacific coast of Nicaragua and southward to Sechura Bay, Peru, and the Galapagos Islands.

COLUMBELLA STROMBIFORMIS Lamarck.

1822. An. s. Vert., vol. 7, p. 293.—Sowerby, Thes. Con., *Columbella*, p. 110, pl. 36, figs. 1, 2, 1844. Gulf of California to Paita, Peru, and the Galapagos Islands.

COLUMBELLA UNCINATA Sowerby.

1832. Proc. Zool. Soc., p. 114.—Sowerby, Thes. Con., *Columbella*, p. 112, pl. 36, figs. 13, 14, 1844. Guayaquil.

Genus ANACHIS H. and A. Adams.

ANACHIS FLUCTUATA Sowerby.

1832. Proc. Zool. Soc., p. 115.—Kiener, Icon., *Columbella*, p. 45, pl. 9, fig. 2. Gulf of Panama to Paita, Peru.

ANACHIS GUATEMALENSIS Reeve.

1859. *Columbella guatemalensis* Reeve, Con. Icon., vol. 11, pl. 31, fig. 198. Gulf of California to Zorritos, Peru.

ANACHIS PYGMÆA Sowerby.

1832. *Columbella pygmæa* Sowerby, Proc. Zool. Soc., p. 119; Thes. Con., *Columbella*, p. 141, pl. 40, fig. 163, 1847. Gulf of California to Guayaquil.

ANACHIS RUGOSA Sowerby.

1832. *Columbella rugosa* Sowerby, Proc. Zool. Soc., p. 115; *C. bicolor* Kiener, Icon., *Columbella*, p. 46, pl. 16, fig. 4. Gulf of California to Paita, Peru.

ANACHIS RUGULOSA Sowerby.

1844. *Columbella rugulosa* SOWERBY, Proc. Zool. Soc., p. 51; Thes. Con., *Columbella*, p. 133, pl. 39, fig. 131, 1844. Gulf of Panama to Paita, Peru, and the Galapagos Islands.

ANACHIS VARICOSA Gaskoin.

1851. *Columbella costellata* SOWERBY, Proc. Zool. Soc., 1832, p. 118; not of SOWERBY 1829. *C. varicosa* GASKOIN, Proc. Zool. Soc., 1851, p. 5.—SOWERBY, Thes. Con., *Columbella*, fig. 147, 1844. Mazatlan, Mexico, south to Paita, Peru, and Arica, Chile.

Genus ASTYRIS H. and A. Adams.

ASTYRIS ELECTROIDES Reeve.

1858. *Columbella electroides* REEVE, Con. Icon., fig. 72. Guayaquil.

ASTYRIS UNICOLOR Sowerby.

1832. *Columbella unicolor* SOWERBY, Proc. Zool. Soc., p. 119.—REEVE, Con. Icon., *Columbella*, fig. 105. From Chimbote Bay, Peru, south to the island of Chiloë, Chile; also at the Galapagos Islands.

ASTYRIS UNIFASCIATA Sowerby.

1832. *Columbella unifasciata* SOWERBY, Proc. Zool. Soc., p. 114; Thes. Con., *Columbella*, p. 133, pl. 39, fig. 130, 1844. Valparaiso, Chile, north to Arica. Magellan? (*C. ebenum* Gould.).

Genus NITIDELLA Swainson.

NITIDELLA BUCCINOIDES Sowerby.

1832. *Columbella buccinoides* SOWERBY, Proc. Zool. Soc., p. 114 (not of LESSON, 1842).—SOWERBY, Thes. Con., fig. 128, 1844. Paita, Peru, south to Coquimbo, Chile.

NITIDELLA OCELLATA Gmelin.

1791. *Voluta ocellata* GMELIN, S. Nat., vol. 8, p. 3455.—REEVE, Con. Icon., *Columbella*, fig. 62. Tropical Atlantic. West Indies. Pacific, from Cape St. Lucas south to the Galapagos Islands and Guayaquil.

NITIDELLA OBLITA Reeve.

1859. *Columbella oblita* REEVE, Con. Icon., vol. 11, pl. 31, fig. 22. Peru.

Genus STROMBINA Morch.

STROMBINA DORSATA Sowerby.

1832. Proc. Zool. Soc., p. 120.—REEVE, Con. Icon., *Columbella* fig. 15*a*. 1858. Guayaquil.

STROMBINA GIBBERULA Sowerby.

1832. *Columbella gibberula* SOWERBY, Proc. Zool. Soc., p. 115.—REEVE, Con. Icon., *Columbella*, fig. 61*b*. 1858. West coast of Central America and southward to Paita, Peru.

STROMBINA LANCEOLATA Sowerby.

1832. *Columbella lanceolata* SOWERBY, Proc. Zool. Soc., p. 116; (not of LOCARD, 1886); Thes. Con., *Columbella*, p. 139, pl. 40, fig. 153–155, 1847. Paita, Peru, and the Galapagos Islands.

STROMBINA RECURVA Sowerby.

1832. *Columbella recurva* SOWERBY, Proc. Zool. Soc., p. 115.—REEVE, Con. Icon., fig. 18*a*, 1858. Central America and south to Guayaquil.

STROMBINA TURRITA Sowerby.

1832. *Columbella turrita* SOWERBY, Proc. Zool. Soc., p. 115; Thes. Con., p. 135, pl. 39, figs. 137, 138, 1847. Nicaragua, to coast of Ecuador.

Family MURICIDÆ.

Genus TROPHON Montfort.

Subgenus **XANTHOCHORUS** Fischer.

TROPHON CASSIDIFORMIS Blainville.

1832. *Purpura cassidiformis* BLAINVILLE, Nouv. Ann. du Mus., vol. 1, p. 214.—REEVE, Con. Icon., *Purpura*, fig. 24. Paita, Peru, south to Chiloë Island, Chile, and at the Galapagos Islands.

TROPHON HORRIDUS Broderip.

1832. *Murex horridus* BRODERIP, Proc. Zool. Soc., p. 176.—SOWERBY, Con. Ill., *Murex*, fig. 29, 1834. Panama and south to Antofagasta, Chile.

Subgenus **TROPHON** s. s.

TROPHON LACINIATUS Martyn.

1784. *Buccinum laciniatum* MARTYN, Univ. Conch., vol. 2, pl. 42. Magellan Straits and northward to Puerto Montt, Chile.

Genus MUREX Linnæus.

MUREX ELENENSIS Dall, new name.

1909. *Murex plicatus* SOWERBY, Proc. Zool. Soc., 1840, p. 139; Con. Ill., *Murex*, fig. 6, 1834. Not *M. plicatus* GMELIN, 1791. Gulf of California and south to Santa Elena, Bay of Guayaquil.

MUREX NIGRESCENS Sowerby.

1840. Proc. Zool. Soc., p. 138; Con. Ill., vol. 2, pl. 198, fig. 113, 1841. Jipijapa, Ecuador.

Genus PHYLLONOTUS Swainson.

PHYLLONOTUS BICOLOR Valenciennes.

1833. *Murex bicolor* VALENCIENNES, Zool. Humboldt Voy., vol. 2, p. 301.—REEVE, Con. Icon., *Murex*, pl. 11, fig. 44, 1845. Guaymas, Mexico, to Paita, Peru.

PHYLLONOTUS BRASSICA Lamarck.

1822. *Murex brassica* LAMARCK, An. s. Vert., vol. 7, p. 167.—SOWERBY, Con. Ill., fig. 56, 1834. Mazatlan, Mexico, and south to Peru.

PHYLLONOTUS EXIGUUS Broderip.

1832. *Murex exiguus* BRODERIP, Proc. Zool. Soc., p. 175.—SOWERBY, Con. Ill., fig. 17, 1834. Salango. Ecuador.

PHYLLONOTUS HUMILIS Broderip.

1832. *Murex humilis* BRODERIP, Proc. Zool. Soc., p. 176.—SOWERBY, Con. Ill., figs. 46, 47, 1834. Gulf of Panama to Guayaquil.

PHYLLONOTUS INCISUS Broderip.

1832. *Murex incisus* BRODERIP, Proc. Zool. Soc., p. 176 (not of CARPENTER).—SOWERBY, Con. Ill., fig. 13, 1834. Bay of Guayaquil.

PHYLLONOTUS LAPPA Broderip.

1832. *Murex lappa* BRODERIP, Proc. Zool. Soc., p. 177.—SOWERBY, Con. Ill., fig. 15, 1834. Mazatlan, Mexico, south to Guayaquil.

PHYLLONOTUS RADIX Lamarck.

1822. *Murex radix* LAMARCK., An. s. Vert., vol. 7, p. 168 (after GMELIN, 1791).—KIENER, Icon., *Murex*, p. 60, pl. 37, fig. 1; pl. 38, fig. 1. Acapulco, Mexico, southward to Panama and Paita, Peru.

PHYLLONOTUS REGIUS Wood.

1828. *Murex regius* WOOD, Ind. Test., suppl. pl. 5, fig. 13. Acapulco, Mexico, to Peru and the Galapagos Islands.

PHYLLONOTUS SQUAMOSUS Broderip.

1832. *Murex squamosus* BRODERIP, Proc. Zool. Soc., p. 176.—SOWERBY, Con. Ill. fig. 27, 1834. Paita, Peru.

PHYLLONOTUS TORTUOSUS Sowerby.

1841. *Murex tortuosus* SOWERBY, Con. Ill., *Murex*, fig. 8; new name for *M. crispus* (BRODERIP not of LAMARCK). Pacasmayo, Peru.

PHYLLONOTUS VARICOSUS Sowerby.

1834. Con. Ill., *Murex*, fig. 49.—*Murex varicosus* SOWERBY, Proc. Zool. Soc., p. 115, 1840; Acapulco, Mexico, and south to Ecuador.

Genus TRITONALIA Fleming.

TRITONALIA BUXEA Broderip.

1832. *Murex buxeus* BRODERIP, Proc. Zool. Soc., p. 194.—SOWERBY, Con. Ill., *Murex*, pl. 61, fig. 28, 1834. Pacasmayo, Peru, and south to Iquique. Chile.

TRITONALIA CRASSILABRUM Gray.

1829. *Murex crassilabrum* GRAY, Spicil. Zool., vol. 1, p. 4.—SOWERBY, Con. Ill., *Murex*, fig. 14, 1834. Peruvian coast and southward to Valparaiso, Chile.

TRITONALIA HAMATA Hinds.

1844. *Murex hamatus* Hinds, Zool. Sulph. Voy., p. 8, pl. 3, figs. 11, 12. Guayaquil, Ecuador, and south to Paita, Peru.

Genus PURPURA Martyn.

PURPURA FONTAINEI Tryon.

1880. *Murex fontainei* Tryon, Man., vol. 2, p. 126, pl. 35, figs. 384, 385. Paita, Peru.

PURPURA PINNIGERA Broderip.

1832. *Murex pinniger* Broderip, Proc. Zool. Soc., p. 174.—*M. cristatus* Gray, Con. Ill., fig. 50, 1834. Jipijapa, Ecuador.

Genus TYPHIS Montfort.

TYPHIS CORONATUS Broderip.

1832. Proc. Zool. Soc., p. 178.—Sowerby, Con. Ill., pl. 200, figs. 3, 4, 1841. Salango, Ecuador.

TYPHIS CUMINGII Broderip.

1832. Proc. Zool. Soc., p. 177.—Sowerby, Con. Ill., pl. 200, figs. 1, 2, 1841. Bahia de Caraques, Ecuador.

TYPHIS QUADRATUS Hinds.

1843. Proc. Zool. Soc., p. 18; Zoöl. Sulph. Voy., p. 10, pl. 3, figs. 3, 4, 1844. Gulf of Panama, and south to Guayaquil.

Genus MURICIDEA Swainson.

MURICIDEA VITTATA Broderip.

1832. *Murex vittatus* Broderip, Proc. Zool. Soc., p. 176; Con. Ill., *Murex*, fig. 19, 1834. Manta, Ecuador, and south to Paita, Peru.

Genus EUPLEURA Adams.

EUPLEURA MURICIFORMIS Broderip.

1832. *Ranella muriciformis* Broderip, Proc. Zool. Soc., p. 179.—Reeve, Con. Icon., *Ranella*, fig. 41. Bay of Montijo, West Columbia, and north to Gulf of California.

EUPLEURA NITIDA Broderip.

1832. *Ranella nitida* Broderip, Proc. Zool. Soc., p. 179.—Reeve, Con. Icon., *Ranella*. fig. 45. Bahia de Caraques, Ecuador.

Genus THAIS Bolten.

THAIS BISERIALIS Blainville.

1832. *Purpura biserialis* Blainville, Mon. *Purpura*, p. 50, pl. 11, fig. 11. Cedros Island, west coast of Lower California, and southward to Callao, Peru.

THAIS CALLAÖENSIS Gray.

1828. *Purpura callaöensis* Gray, Spicil. Zoöl., p. 4, pl. 6, fig. 11.—Reeve, Con. Icon., *Purpura*, fig. 79, 1846. Gulf of Panama, and southward to Callao, Peru.

THAIS CHOCOLATA Duclos.

1832. *Purpura chocolata* Duclos, Ann. Sci. Nat., vol. 26, p. 108, pl. 2, fig. 7.—Orbigny, Voy. Am. Mér., vol. 5, p. 436, pl. 61, figs. 1–3, 1841. Paita, Peru, south to Valparaiso, Chile.

THAIS COLUMELLARIS Lamarck.

1822. *Purpura columellaris* Lamarck, An. s. Vert., vol. 7, p. 236.—Reeve, Con. Icon., *Purpura*. pl. 2, fig. 9, 1846. Gulf of Panama to Peru and the Galapagos Islands.

THAIS COSTATA Blainville.

1832. *Purpura costata* Blainville, Nouv. Ann. du Mus., vol. I, p. 231, pl. 11, fig. 8. Mazatlan, Mexico, to Paita, Peru.

THAIS CRASSA Blainville.

1832. *Purpura crassa* Blainville, Nouv. Ann. du Mus., vol. 1, p. 241, pl. 12, fig. 4 (March).—*P. melones* Duclos, Ann. Sci. Nat., vol. 26, p. 105, pl. 1, fig. 2 (May), 1832. Gulf of Panama to Callao, Peru, and the Galapagos Islands.

THAIS DELESSERTIANA Orbigny.

1841. Voy. Am. Mér., p. 439, pl. 77, fig. 7. Cedros Island, Lower California, south to the Chincha Islands, Peru.

THAIS KIOSQUIFORMIS Duclos.

1832. *Purpura kiosquiformis* Duclos, Ann. Sci. Nat., vol. 26, pl. 1, fig, 5.—Kiener, Icon., *Purpura*, p. 59, pl. 15, fig. 40. Magdalena Bay, Lower California, southward to Tumbes, Peru.

THAIS PATULA Linnæus.

1758. *Buccinum patulum* Linnæus, Syst. Nat., 10th ed., p. 739; 12th ed., p. 1202, 1767.—Reeve, Con. Icon., *Purpura*, fig. 3. Gulf of California to Panama and the Galapagos. Peru (Tschudi). West Indies.

THAIS PERUËNSIS Dall, new name.

1909. *Purpura peruviana* Eydoux and Souleyet, Voy. Bonite, Zoöl., vol. 2, p. 606, pl. 40, figs. 1–3, 1852. Not of Blainville, 1832. Paita and Pacasmayo, Peru.

THAIS PLANOSPIRA Lamarck.

1822. *Purpura planospira* Lamarck, An. s. Vert., vol. 7, p. 240.—Reeve, Con. Icon., *Purpura*, pl. 3, fig. 14, 1846. Lower California, and southward to Peru, and the Galapagos Islands.

THAIS TRIANGULARIS Blainville.

1832. *Purpura triangularis* Blainville, Nouv. Ann. du Mus., vol. 1, p. 223, pl. 11, fig. 4. Mazatlan, Mexico, and south to Paita, Peru, and the Galapagos Islands.

Genus CYMIA Morch.

CYMIA TECTUM Wood.

1828. *Buccinum tectum* Wood, Ind. Test., suppl. pl. 4, fig. 13.—Sowerby, Gen. Sh., *Purpura* (*callosa*), fig., 1834. Gulf of Panama to Manta, Ecuador.

Genus CONCHOLEPAS Lamarck.

CONCHOLEPAS CONCHOLEPAS Bruguière.

1789. *Buccinum concholepas* Bruguière, Encycl. Méth., p. 252. *Purpura peruviana* Blainville, Mon., *Purpura*, p. 55, 1832.—Tryon, Man. Con., vol. 2, p. 199, pl. 162, figs. 314–316, 1880. West coast of Mexico (v. Martens); Callao, Peru, and southward to Magellan Straits.

Genus ACANTHINA Fischer.

ACANTHINA BREVIDENTATA Mawe.

1828. *Buccinum brevidentatum* Mawe, in Wood, Index Test., suppl. pl. 4, fig. 10. Gulf of Panama to Paita, Peru.

ACANTHINA CALCAR-LONGUM Martyn.

1784. *Buccinum calcar-longum* Martyn, Univ. Conch., pl. 50. *B. unicorne* Bruguière, Enc. Méth., p. 254, pl. 396, fig. 2, 1789. Peruvian coast, south to the island of Chiloë, Chile.

ACANTHINA MURICATA Broderip.

1832. *Purpura muricata* Broderip, Proc. Zool. Soc., p. 125.—Reeve, Con. Icon., *Monoceros*, pl. 2, fig. 7, 1846. Mazatlan, Mexico, to Guayaquil, Ecuador.

ACANTHINA TUBERCULATA Gray.

1835. Sowerby, Con. Ill., *Monoceros*, pl. 82, fig. 9. Mazatlan, Mexico, to Paita, Peru, and the Galapagos Islands.

Genus CHORUS Gray.

CHORUS GIGANTEUS Lesson.

1829. *Monoceros giganteus* Lesson, Voy. Coq., Moll., p. 405, pl. 11, fig. 4. Concepcion, Chile.

Family CORALLIOPHILIDÆ.

Genus CORALLIOPHILA H. and A. Adams.

CORALLIOPHILA CARDUUS Broderip.

1832. *Murex carduus* Broderip, Proc. Zool. Soc., p. 175.—Sowerby, Con. Ill., *Murex*, pl. 61, fig. 22, 1834. Pacasmayo, Peru, from a coral reef 12 miles off shore.

CORALLIOPHILA SCALARIFORMIS Lamarck.

1822. *Purpura scalariformis* Lamarck, An. s. Vert., vol. 7, p. 241.—Kiener, Icon., *Purpura*, p. 74, pl. 19, fig. 55. Guayaquil.

Suborder STREPTODONTA.

Superfamily PTENOGLOSSA.

Family SCALIDÆ.

Genus EPITONIUM Bolten.

EPITONIUM DUCALE Mörch.

1875. *Scalaria ducalis* Mörch, Mal. Blätt., vol. 22, p. 143.—Sowerby, Thes. Con., *Scalaria*, p. 88, pl. 34, fig. 75, 1847; as *S. principalis* (not of Pallas, 1774). Jipijapa, Ecuador.

EPITONIUM ELENENSE Sowerby.

1844. *Scalaria elenensis* Sowerby, Proc. Zool. Soc., p. 29; Thes. Con., *Scalaria*, p. 98, pl. 34, fig. 102, 1847. Santa Elena, Bay of Guayaquil, Ecuador.

EPITONIUM OBTUSUM Sowerby.

1844. *Scalaria obtusa* Sowerby, Proc. Zool. Soc., p. 29; Thes. Con., *Scalaria*, p. 98, pl. 33, fig. 54, 1847. Santa Elena, Bay of Guayaquil, Ecuador.

EPITONIUM ORBIGNYI Nyst.

1873. *Scalaria orbignyi* Nyst, Tabl., p. 48; *S. elegans* Orbigny, Voy. Am. Mér., p. 389, pl. 54, figs. 1, 2, 1840; not of Risso, 1826. Southern Chile.

EPITONIUM POLITUM Sowerby.

1844. *Scalaria polita* Sowerby, Proc. Zool. Soc., p. 30; Thes. Con., *Scalaria*, p. 100, pl. 34, fig. 99, 1847. Jipijapa, Ecuador.

EPITONIUM STATUMINATUM Sowerby.

1844. *Scalaria statuminata* Sowerby, Proc. Zool. Soc., p. 30; Thes. Con., *Scalaria*, p. 102, pl. 35, fig. 127, 1847. Bay of Guayaquil, southward to Paita, Peru.

Family JANTHINIDÆ.

Genus JANTHINA Bolten.

JANTHINA EXIGUA Lamarck.

1822. An. s. Vert., vol. 6, pt. 2, p. 206.—Tryon, Man., vol. 9, p. 37, pl. 10, figs. 17–22, 1887. Chile; also Atlantic and Pacific oceans. Pelagic.

JANTHINA JANTHINA Linnæus.

1758. *Helix janthina* Linnæus, Syst. Nat., 10th ed., p. 772.—Orbigny, Voy. Am. Mér., p. 413, pl. 61, figs. 8–10, 1841. Pelagic. N. Lat. 42° to S. lat. 36° in the Pacific Ocean.

JANTHINA PALLIDA Harvey.

1817. Thompson's Ann. Phil. Nat. Hist., vol 5, p. 96, pl. 2, fig. 2. Pelagic in the tropical Pacific and Atlantic.

Superfamily GYMNOGLOSSA.

Family EULIMIDÆ.

Genus EULIMA Risso.

EULIMA HASTATA Sowerby.

1834. Proc. Zool. Soc., p. 7.—Reeve, Con. Icon., *Eulima*, fig. 9.—Sowerby, Con. Ill., *Eulima*, fig. 10, 1841. Santa Elena, Bay of Guayaquil, Ecuador.

EULIMA PUSILLA Sowerby.

1834. Proc. Zool. Soc., p. 7; Con. Ill., *Eulima*, fig. 6, 1841. Santa Elena, Bay of Guayaquil, Ecuador.

EULIMA VARIANS Sowerby.

1834. Proc. Zool. Soc., p. 8.—Reeve, Con. Icon., *Leiostraca*, fig. 1.—Sowerby, Con. Ill., *Eulima*, fig. 14, 1841. Jipijapa, Ecuador.

Genus NISO Risso.

NISO IMBRICATA Sowerby.

1834. *Eulima imbricata* Sowerby, Proc. Zool. Soc., p. 1.—Reeve, Con. Icon., *Niso*, fig. 3. Santa Elena, Bay of Guayaquil, Ecuador.

NISO SPLENDIDULA Sowerby.

1834. *Eulima splendidula* Sowerby, Proc. Zool. Soc., p. 6.—Reeve, Con. Icon., *Niso*, fig. 7. Santa Elena, Bay of Guayaquil, Ecuador. Also western Atlantic and Gulf of Mexico.

Genus ENTOCOLAX Voight.

ENTOCOLAX SCHIEMENZII Voight.

1901. Zool. Anz., vol. 24, pp. 285–292, illustrated. Chile. (Ento-parasitic in *Chirodota pisanii*.)

Family PYRAMIDELLIDÆ.

Genus TURBONILLA Risso.

TURBONILLA (PYRGISCUS) ANNETTÆ Dall and Bartsch.

1909. Mon. W. Am. Pyr., Bull. U. S. Nat. Mus., No. 68, p. 76, pl. 7, fig. 7.

Off Manta, Ecuador.

TURBONILLA (PYRGISCUS) CORA Orbigny.

1840. *Chemnitzia cora* Orbigny, Voy. Am. Mér., p. 398, pl. 76, figs. 7–9. Paita, Peru.

Genus ODOSTOMIA Fleming.

ODOSTOMIA (MENESTHO) CHILENSIS Dall and Bartsch.

1909. Mon. W. Am. Pyr., Bull. U. S. Nat. Mus., No. 68, p. 189, pl. 21, fig. 6.

Tomé, Chile, in 14 fathoms.

Superfamily NUCLEOBRANCHIATA.

Family ATLANTIDÆ.

Genus ATLANTA Lesueur.

ATLANTA PERONII Lesueur.

1836. Voy. Am. Mér., p. 171, pl. 12, figs. 1–15. Eastern Pacific. Pelagic. Also Atlantic.

ATLANTA TURRICULATA Orbigny.

1836. Voy. Am. Mér., p. 173, pl. 20, figs. 5–11. Eastern Pacific, lat. 30° S. Pelagic.

Genus OXYGYRUS Benson.

OXYGYRUS RANGII Eydoux and Souleyet.

1841. Voy. Bonite, Atlas, pl. 18, figs. 18–24; text, Zool., vol. 2, p. 369, 1852. Southeastern Pacific. Pelagic.

Family PTEROTRACHEIDÆ.

Genus PTEROTRACHEA Forskål.

PTEROTRACHEA PERONII Orbigny.

1836. *Firola* (*Anops*) *peronii* Orbigny, Voy. Am. Mér., p. 149, pl. 10, figs. 8–10. Eastern Pacific, lat. 20° S. Pelagic.

Genus FIROLOIDA Lesueur.

FIROLOIDA LESUEURI Orbigny.

1836. *Firola* (*Cerophora*) *lesueuri* Orbigny, Voy. Am. Mér., p. 151, pl. 10, figs. 11–12. Eastern Pacific, lat. 30° S. Pelagic.

Genus CARINARIA Lamarck.

CARINARIA PUNCTATA Orbigny.

1836. Voy. Am. Mér., p. 160, pl. 11, figs. 6–15. Off Juan Fernandez Island, S. lat. 33°. Pelagic.

Superfamily TÆNIOGLOSSA.

Family SEPTIDÆ.

Genus DISTORTIO Bolten.

DISTORTIO CONSTRICTUS Broderip.

1833. *Triton constrictus* Broderip, Proc. Zool. Soc., p. 5.—Reeve, Con. Icon., *Triton*, pl. 12, fig. 41, 1844. Acapulco, Mexico, south to the coast of Ecuador.

Genus CYMATIUM Bolten.

CYMATIUM GIBBOSUM Broderip.

1833. *Triton gibbosum* Broderip, Proc. Zool. Soc., p. 7.—Reeve, Con. Icon., *Triton*, pl. 11, fig. 38, 1844. Panama to Guayaquil.

CYMATIUM LIGNARIUM Broderip.

1833. *Triton lignarius* BRODERIP, Proc. Zool. Soc., p. 5.—REEVE, Con. Icon., *Triton*, pl. 13, fig. 40, 1844. Gulf of Panama to Ecuador.

CYMATIUM PILEARE Linnæus.

1758. *Murex pilearis*, LINNÆUS, Syst. Nat., 10th ed., p. 749; *Triton pilearis* LAMARCK; Küster, Con. Cab., 2d ed., *Triton*, p. 196, pl. 42, figs. 3, 4; pl. 56, fig. 4, 1878. Peru (Tschudi). Indo-Pacific and Atlantic, West Indies.

CYMATIUM COSTATUM Born.

1778. *Murex costata* BORN, Ind. Mus. Vind., p. 295.—*Murex olearium* LINNÆUS, 1767, not 1758.—KOBELT, Icon. Europ. Meeresconch., vol. 2, pl. 38, figs. 1, 2; pl. 39, fig. 1, 1901. Paita, Peru; Galapagos Islands. Cosmopolitan.

CYMATIUM VESTITUM Hinds.

1844. *Triton vestitus* HINDS, Zool. Sulph. Voy., p. 11, pl. 4, fig. 1. West Coast of Central America to the Chincha Islands, Peru.

CYMATIUM CINGULATUM Lamarck.

1822. *Cassidaria cingulata* LAMARCK, An. s. Vert., vol. 7, p. 216.—REEVE, Con. Icon., vol. 2, *Triton*, fig. 35. Peru (Tschudi). Indo-Pacific region.

CYMATIUM WIEGMANNI Anton.

1839. *Triton wiegmanni* ANTON, Verz., p. 77.—REEVE, Con. Icon., *Triton*, fig. 37. Mazatlan, Mexico, to Paita, Peru.

Genus ARGOBUCCINUM Mörch.

ARGOBUCCINUM RUDE Broderip.

1833. *Triton rudis* BRODERIP, Proc. Zool. Soc., p. 6.—REEVE, Con. Icon., *Triton*, fig. 53. Iquique to Valparaiso, Chile.

ARGOBUCCINUM SCABRUM King.

1831. *Triton scaber* KING, Zool. Journ., vol. 5, p. 348.—*Pollia scabra* GRAY, Zool. Beechey's Voy., p. 111, pl. 36, fig. 16, 1837. Coast of Ecuador, south to Valparaiso, Chile.

ARGOBUCCINUM VEXILLUM Sowerby.

1841. *Ranella vexillum* SOWERBY, Proc. Zool. Soc., p. 51; Con. Ill., *Ranella*, fig. 13, 1841. Southern Chile.

Family RANELLIDÆ.

Genus BURSA Bolten.

BURSA CÆLATA Broderip.

1832. *Ranella cælata* BRODERIP, Proc. Zool. Soc., p. 179.—REEVE, Con. Icon., *Ranella*, fig. 4. Panama. Peru (Tschudi).

BURSA VENTRICOSA Broderip.

1832. *Ranella ventricosa* BRODERIP, Proc. Zool. Soc., p. 178.—SOWERBY, Con. Ill., pl. 92, fig. 16, 1836. West coast of Nicaragua, south to Callao, Peru.

Family CASSIDIDÆ.

Genus CASSIDEA Bruguière.

CASSIDEA (BEZOARDICA) ABBREVIATA Lamarck.

1822. *Cassis abbreviata* LAMARCK, An. s. Vert., vol. 7, p. 224.—REEVE, Con. Icon., *Cassis*, fig. 18, 1848. Central American coast and south to Guayaquil.

Family DOLIIDÆ.

Genus MALEA Valenciennes.

MALEA RINGENS Swainson.

1822. *Dolium ringens* SWAINSON, Bligh Cat. app., p. 4.—REEVE, Con. Icon., *Dolium*, pl. 4, fig. 5, 1848. Acapulco, Mexico, and south to Paita, Peru, and the Galapagos Islands.

Family AMPHIPERASIDÆ.

Genus SIMNIA Risso.

SIMNIA RUFA Sowerby.

1832. *Ovula rufa* SOWERBY, Proc. Zool. Soc., p. 173; Con. Ill., fig. 58, 1836. Bahia de Caraques, Ecuador.

Genus CYPHOMA Bolten.

CYPHOMA EMARGINATA Sowerby.

1830. *Ovula emarginata* SOWERBY, Species Con., pt. 1, p. 7, figs. 54, 55; Thes. Con., *Ovulum*, figs. 11, 12. Panama to Guayaquil.

Family CYPRÆIDÆ.

Genus CYPRÆA Linnæus.

CYPRÆA ALBUGINOSA Gray.

1824. Zoöl. Journ., vol. 1, p. 510, pl. 7, fig. 2, p. 12, fig. 2.—SOWERBY, Con. Ill., *Cypræa*, p. 6, no. 45, 1832. Gulf of California to the Galapagos Islands.

CYPRÆA ANNETTÆ Dall.

1909. Dall, Nautilus, vol. 22, no. 12, p. 125.—*C. sowerbyi* KIENER, 1845, Icon., *Cypræa*, p. 38, pl. 7, fig. 3; not of GRAY, 1832. Gulf of California and southward to Sechura Bay, Peru.

CYPRÆA ARABICULA Lamarck.

1810. An. du Mus., vol. 16, p. 100, no. 54; An. s. Vert., vol. 7, p. 399.—SOWERBY, Thes. Con., *Cypræa*, p. 16, pl. 7, figs. 38, 39, 1859. Gulf of California to Paita, Peru.

CYPRÆA EXANTHEMA Linnæus.

1767. Syst. Nat., 12th ed., p. 1172.—SOWERBY, Thes. Con., *Cypræa*, p. 5, pl. 22, fig. 181, 1859. Gulf of California to Paita, Peru, and the Galapagos Islands.

CYPRÆA NIGROPUNCTATA Gray.

1828. Zoöl. Journ., vol. 4, p. 81.—SOWERBY, Con. Ill., *Cypræa*, fig. 22, 1832. Manta, Ecuador, south to Paita, Peru (Chile, Hidalgo), and the Galapagos Islands.

CYPRÆA ROBERTSI Hidalgo.

1906. Mon. *Cypræa*, pp. 161, 220.—*C. punctulata*, GRAY, Zoöl. Journ., vol. 1, p. 387, 1824; not of GMELIN, Syst. Nat., p. 3404, 1791.—SOWERBY, Con. Ill., *Cypræa*, pl. 4, fig. 20, 1832. Gulf of California to Paita, Peru.

Family TRIVIIDÆ.

Genus TRIVIA Gray.

TRIVIA ACUTIDENTATA Gaskoin.

1835. Proc. Zool. Soc., p. 201.—BUTTON, Nautilus, vol. 19, p. 132, 1906. (Unfigured.) Guayaquil and the Galapagos Islands.

TRIVIA FUSCA Gray.

1832. In SOWERBY, Con. Ill., fig. 37. Mazatlan to Guayaquil and the Galapagos Islands.

TRIVIA PACIFICA Gray.

1832. Proc. Zool. Soc., p. 185.—SOWERBY, Thes. Con. *Cypræa*, p. 45, pl. 34, figs. 441, 443, 1859. Gulf of California to Panama and the Galapagos Islands.

TRIVIA PULLA Gaskoin.

1846. Proc. Zool. Soc., p. 24; 1848, p. 97.—SOWERBY, Thes. Con., *Cypræa*, p. 48, pl. 26. figs. 490, 491, 1859. Gulf of California to Guayaquil and the Galapagos Islands.

TRIVIA RADIANS Lamarck.

1810. *Cypræa radians* LAMARCK, Ann. du Mus., vol. 16, p. 102.—SOWERBY, Con. Ill., pl. 119, fig. 146, 1837. Gulf of California to Peru and Chile and the Galapagos Islands.

TRIVIA RUBESCENS Gray.

1832. Proc. Zool. Soc., p. 185.—SOWERBY, Con. Ill., *Cypræa*, fig. 31, 1832. Gulf of California to Panama and the Galapagos Islands.

TRIVIA SANGUINEA Gray.

1832. In SOWERBY, Con. Ill., p. 13, fig. 32. Gulf of California to Guayaquil, Ecuador.

TRIVIA SOLANDRI Gray.

1832. In SOWERBY, Con. Ill., p. 15, pl. 7, fig. 43. Santa Barbara Islands, California, and south to Panama and Peru.

Genus ERATO Risso.

ERATO (ERATOPSIS) SCABRIUSCULA Gray.

832. In SOWERBY, Con. Ill., *Cypræa*, fig. 45; Thes. Con., *Erato*, p. 81, pl. 210, figs. 14–16, 1859. Cape St. Lucas, Lower California, and southward to Peru.

Family STROMBIDÆ.

Genus STROMBUS Linnæus.

STROMBUS GRACILIOR Gray.

1828. Wood, Index Test., suppl. pl. 4, fig. 1. Gulf of California to Manta, Ecuador.

STROMBUS GRANULATUS Gray.

1828. Wood, Index Test., suppl. pl. 4, fig. 21.—Sowerby, Thes. Con., *Strombus*, p. 33, pl. 9, fig. 100, 1847. Mazatlan, Mexico, and southeast to Guayaquil.

STROMBUS PERUVIANUS Swainson.

1831. Zoöl. Ill., pl. 39.—Sowerby, Thes. Con., vol. 1, p. 34, pl. 10, fig. 110, 1847. Manta, Ecuador, to Paita, Peru.

Family CERITHIIDÆ.

Genus CERITHIUM Bruguière.

CERITHIUM ADUSTUM Kiener.

1841. Icon., *Cerithium*, p. 37, pl. 13, fig. 2. Mazatlan to Panama and the Galapagos Islands.

CERITHIUM INTERRUPTUM Menke.

1850. Zeitschr. f. Mal., p. 178.—Sowerby, Thes. Con., vol. 2, p. 869, figs. 155, 156, 1855. Gulf of California to Manta, Ecuador, and the Galapagos Islands.

CERITHIUM MACULOSUM Kiener.

1841. Icon., *Cerithium*, p. 36, pl. 13, fig. 3. Panama to Guayaquil and the Galapagos Islands.

CERITHIUM OCELLATUM Bruguière.

1792. Encycl. Méth., p. 499, no. 43.—Tryon, Man., vol. 9, p. 13, pl. 24, fig. 19, 1887. Mazatlan, Mexico, to Panama and the Galapagos Islands.

CERITHIUM PACIFICUM Sowerby.

1833. Sowerby, Gen. Shells, *Cerithium*, part xlii, fig. 9. Panama and south to Valparaiso, Chile.

CERITHIUM STERCUSMUSCARUM Valenciennes.

1833. Humboldt Voy., Zool., vol. 2, p. 278. Cedros Island, Lower California, and southward to Tumbes, Peru, and the Galapagos Islands.

Genus BITTIUM (Leach) Gray.

BITTIUM PERUVIANUM Orbigny.

1841. *Cerithium peruvianum* Orbigny, Voy. Am. Mér., p. 443, pl. 77, figs. 9, 10. Arica, Chile.

BITTIUM (STYLIDIUM) SULCIFERUM Troschel.

1852. *Rissoina sulcifera* Troschel, Arch. f. Naturg., vol. 18, pt. 1, p. 154, pl. 5, fig. 1. Peru (Tschudi).

Genus CERITHIDEA Swainson.

CERITHIDEA MONTAGNEI Orbigny.

1841. *Cerithium montagnei* ORBIGNY, Voy. Am. Mér., p. 443, pl. 63, figs. 3, 4. Gulf of California, and south to Panama and Chile.

Family CERITHIOPSIDÆ.

Genus SEILA A. Adams.

SEILA ASSIMILATA C. B. Adams.

1852. *Cerithiopsis assimilata* ADAMS, Panama Sh., pp. 150, 309.—SOWERBY, Thes. Con., vol. 2, p. 881, pl. 184, fig. 246, 1855. Catalina Island, California, south to the Gulf of California, Panama, and Sechura Bay, Peru.

Family MODULIDÆ.

Genus MODULUS Gray.

MODULUS PERLATUS Dillwyn.

1817. Cat. Rec. Sh., vol. 2, p. 788.—EYDOUX and SOULEYET, Voy. Bonite, Zoöl., vol. 2, p. 598, pl. 37, figs. 25–31, 1852. Isla Puna, Guayaquil. Peru (Tschudi).

Family PLANAXIDÆ.

Genus PLANAXIS Lamarck.

PLANAXIS PLANICOSTATUS Sowerby.

1825. Tankerville Cat., app., p. xiii; Con. Icon., *Planaxis*, fig. 26. Mazatlan, Mexico, south to Panama and the Galapagos Islands. Peru (Tschudi).

Family VERMETIDÆ.

Genus BIVONIA Gray.

BIVONIA COMPACTA Carpenter.

1864. Rep. Brit. Assoc. for 1863, pp. 628, 654; Ann. Mag. Nat. Hist., 3rd ser., vol. 14, p. 427, Dec., 1864. (Unfigured.) Vancouver Island, British Columbia, and southward to Paita, Peru.

Genus SERPULORBIS Sacco.

SERPULORBIS SQUAMIGERUS Carpenter.

1856. Proc. Zool. Soc., p. 226.—TRYON, Man., vol. 8, p. 181, pl. 54, figs. 73, 74, 1886. San Diego, California, and southward to Paita, Peru.

Family TURRITELLIDÆ.

Genus TURRITELLA Lamarck.

TURRITELLA CINGULATA Sowerby.

1825. Tankerville Cat., app., p. xiii.—Reeve, Con. Icon., *Turritella*, fig. 23, 1849. Manta, Ecuador, south to the island of Chiloë, Chile.

TURRITELLA GONIOSTOMA Valenciennes.

1833. Humboldt Voy., Zoöl., vol. 2, p. 275.—Reeve, Con. Icon., *Turritella*, figs. 10*a–b*, 1849. Gulf of California, to the Lobos Islands, Peru.

TURRITELLA RADULA Kiener.

1840. Icon., *Turritella*, p. 13, pl. 2, fig. 1. Bay of Guayaquil.

TURRITELLA RUBESCENS Reeve.

1849. Con. Icon., *Turritella*, fig. 63. Gulf of Panama.

Family LITTORINIDÆ.

Genus LITTORINA Ferussac.

LITTORINA ARAUCANA Orbigny.

1840. Voy. Am. Mér., p. 393, pl. 53, figs. 3, 4. Coast of Nicaragua, and south to Paita, Valparaiso, and the island of Chiloë.

LITTORINA PERUVIANA Lamarck.

1822. *Phasianella peruviana* Lamarck, An. s. Vert., vol. 7, p. 53.—Gray, Beechey's Voy., p. 138, pl. 36, fig. 8, 1839. Coast of Nicaragua, and southward to Valdivia, Chile, and the Galapagos Islands.

LITTORINA PULCHRA Sowerby.

1832. Gen. Sh., *Littorina*, figs. 2, 3.—Reeve, Con. Icon., *Littorina*, fig. 17. Panama to Guayaquil.

LITTORINA THERSITES Reeve.

1857. Conch. Icon., *Littorina*, fig. 78. "Chile and Peru" (Reeve).

LITTORINA UMBILICATA Orbigny.

1840. Voy. Am. Mér., p. 394, pl. 76, fig. 1–3. Coast of Ecuador and Peru, south to Cobija, Chile.

LITTORINA VARIA Sowerby.

1832. Gen. Sh., *Littorina*, vol. 38, fig. 3.—Philippi, Abb., vol. 2, *Littorina*, pl. 1, figs. 2–3. Gulf of California to Casma, Peru. (Chiloë?).

LITTORINA ZICZAC Gmelin.

1791. *Trochus ziczac* Gmelin, Syst. Nat., vol. 8, p. 3587.—*Littorina glabrata* Philippi, Abb., vol. 3, p. 62, pl. 7, fig. 5, 1848. Paita, Peru.

Genus TECTARIUS Valenciennes.

TECTARIUS GALAPAGIENSIS Stearns.

1892. Nautilus, vol. 6, no. 8, Dec., p. 87; Proc. U. S. Nat. Mus., vol. 16, p. 396, pl. 51, fig. 7, 1893. Manta, Ecuador, and the Galapagos Islands.

Family SOLARIIDÆ.

Genus ARCHITECTONICA Bolten.

ARCHITECTONICA GRANULATA Lamarck.

1822. *Solarium granulatum* Lamarck, An. s. Vert., vol. 7, p. 3. Encycl. Méth., pl. 446, fig. *5a–b*.—Kiener, Icon., *Solarium*, p. 4, pl. 2, fig. 2. Lower California to Panama and Peru (Tschudi).

ARCHITECTONICA KOCHII Dall, new name.

1909. *Solarium nanum* (Koch ms.) Philippi, Conch. Cab., 2d ed., Mon. *Solarium*, 1853, p. 27, pl. 4. fig. 5; not *Solarium nanum* Grateloup, 1838. Chile.

Family RISSOIDÆ.

Genus RISSOA Fréminville.

RISSOA (ALVANIA) CARPENTERI Weinkauff.

1885. *Alvania carpenteri* Weinkauff, Conch. Cab., 2d ed., *Rissoa*, p. 192. *A. reticulata* Carpenter, 1864, not of Montagu, 1804. Neah Bay, Washington, to the Galapagos Islands.

Genus RISSOINA Orbigny.

RISSOINA CANCELLATA Philippi.

1847. Zeitschr. Mal., p. 127.—Schwartz von Mohr., Mon. *Rissoina*, p. 89, pl. 7, fig. 52, 1860. Coast of Ecuador and Peru. Also in the West Indies.

RISSOINA COSTATA A. Adams.

1851. Proc. Zool. Soc., p. 266.—Schwartz von Mohr., Mon. *Rissoina*, p. 53, pl. 2, fig. 16, 1860. Cobija, Chile.

RISSOINA INCA Orbigny.

1840. Voy. Am. Mér., p. 395, pl. 53, figs. 11–16. Peru, and the Galapagos Islands, and south to the island of Chiloë.

Family CALYPTRÆIDÆ.

Genus CHEILEA Modeer.

CHEILEA EQUESTRIS Linnæus.

1758. Syst. Nat., 10th ed., p. 780; 12th ed., p. 1257, 1767.—*C. varia* Broderip, Trans. Zoöl. Soc. London, vol. 1, p. 197, pl. 27, fig. 3, 1834. Mazatlan, Mexico, to Arica, Chile, and the Galapagos Islands. Cosmopolitan.

CHEILEA CORRUGATA Broderip.

1884. Trans. Zoöl. Soc. London, vol. 1, p. 197, pl. 27, fig. 2.—Reeve, Con. Icon., *Trochita*, fig. 9. Gulf of California, south to Callao, Peru, and the Galapagos Islands.

Genus CALYPTRÆA Lamarck.

CALYPTRÆA LICHEN Broderip.

1834. Trans. Zoöl. Soc. London, vol. 1, p. 201, pl. 28, fig. 4. Muerte Island, Guayaquil.

CALYPTRÆA MAMILLARIS Broderip.

1834. Trans. Zoöl. Soc. London, vol. 1, p. 201, pl. 28, fig. 5. Muerte Island, Guayaquil.

Genus TROCHITA Schumacher.

TROCHITA INTERMEDIA Orbigny.

1841. *Calyptræa intermedia* Orbigny, Voy. Am. Mér., p. 463., pl. 59, figs. 4–6. Islay, Peru, 20 fathoms.

TROCHITA TROCHIFORMIS Gmelin.

1791. *Patella trochiformis* Gmelin, Syst. Nat., vol. 8, p. 3693.—Sowerby, Gen. Sh., *Calyptræa*, fig. 9, 1824. Panama to Valparaiso, Chile.

Genus CRUCIBULUM Schumacher.

CRUCIBULUM IMBRICATUM Sowerby.

1824. *Calyptræa imbricata* Sowerby, Gen. Sh., fig. 5.—Broderip, Trans. Zoöl. Soc. London, vol. 1, p. 198, pl. 27, fig. 7, 1834. Gulf of California, and southward to Callao, Peru, and the Galapagos Islands.

CRUCIBULUM QUIRIQUINÆ Lesson.

1830. Voy. Coq., vol. 2, pt. 1, p. 397.—Broderip, Trans. Zoöl. Soc. London, vol. 1, pl. 27, fig. 9, 1834. Gulf of California, southward to the Straits of Magellan.

CRUCIBULUM SPINOSUM Sowerby.

1824. *Calyptræa spinosa* Sowerby, Gen. Sh., figs. 4, 7.—Broderip, Trans. Zoöl. Soc. London, vol. 1, pl. 28, fig. 8, 1834. California (at Monterey), south to northern Chile.

Genus CREPIDULA Lamarck.

CREPIDULA ACULEATA Gmelin.

1791. *Patella aculeata* Gmelin, Syst. Nat., vol. 8, p. 3693.—Favanne, Conch., vol. 1, p. 564, pl. 4, fig. F 2.—Broderip, Trans. Zoöl. Soc. London, vol. 1, pl. 29, fig. 1, 1834. California to Lobos Islands, Peru; West Indies, Africa, Japan. Cosmopolitan.

CREPIDULA CREPIDULA Linnæus.

1764. *Patella crepidula* Linnæus, Mus. Lud. Ulricæ, p. 689.—Favanne, Conch., pl. 4, fig. lower D. Mazatlan, Mexico, to Callao, Peru. West Indies. Cosmopolitan.

CREPIDULA DILATATA Sowerby.

1824. *C. dilatata* (LAMARCK Ms.) SOWERBY, Gen. Sh., *Crepidula*, fig. 5.—DELESSERT, Rec. de Coq. pl. 24, fig. 4*a–c*. California, and southward to Magellan straits.

CREPIDULA DORSATA Broderip.

1834. *Calyptræa dorsata* BRODERIP, Trans. Zoöl. Soc. London, vol. 1, p. 202, pl. 28, fig. 10. California, south to Valparaiso, Chile.

CREPIDULA EXCAVATA Broderip.

1834. Trans. Zoöl. Soc. London, vol. 1, p. 225, pl. 29, fig. 7. Gulf of California and south to the Chilean coast.

CREPIDULA INCURVA Broderip.

1834. Proc. Zoöl. Soc., p. 40; Trans. Zoöl. Soc. London, vol. 1, pl. 29, fig. 6. Mazatlan, Mexico, to Paita, Peru.

CREPIDULA ONYX Sowerby.

1824. Gen. Shells, *Crepidula*, fig. 2. San Pedro, California, south to Arica, Chile.

CREPIDULA SQUAMA Broderip.

1834. Proc. Zoöl. Soc., p. 40; Trans. Zoöl. Soc. London, vol. 1, p. 205, pl. 29, fig. 10, 1834. Straits of Fuca south to Patagonia.

Family CAPULIDÆ.

Genus CAPULUS Montfort.

CAPULUS UNGARICOIDES Orbigny.

1841. Voy. Am. Mér., p. 457, pl. 78, fig. 4. Paita, Peru.

Family HIPPONICIDÆ.

Genus HIPPONIX Defrance.

HIPPONIX ANTIQUATA Linnæus.

1767. *Patella antiquata* LINNÆUS, Syst. Nat., 12th ed., p. 1259.—SOWERBY, Thes., vol. 1, p. 369, pl. 73, figs. 18–20, 1847. Santa Barbara, California, and south to Peru and the Galapagos Islands. Also West Indies.

HIPPONIX BARBATA Sowerby.

1835. Proc. Zoöl. Soc., p. 5; Thes. Con., vol. 1, p. 369, pl. 73, figs. 26–27, 1847. Mazatlan, Mexico, and south to Guayaquil and the Galapagos Islands. Also Indo-Pacific.

HIPPONIX GRAYANA Menke.

1853. Zeitschr. f. Mal., p. 115.—TRYON, Man., vol. 8, p. 135, pl. 40, figs. 4, 5, 1886. Mazatlan, Mexico, to Guayaquil and the Galapagos Islands.

HIPPONIX SUBRUFA Lamarck.

1819. *Pileopsis subrufa* LAMARCK, An. s. Vert., vol. 6, pt. 2, p. 16.—SOWERBY, Thes. Con., vol. 1, p. 370, pl. 73, figs. 21–23, 1847. Panama and south to the Lobos Islands, Peru; Indo-Pacific. Also West Indies.

Family NATICIDÆ.

Genus NATICA Scopoli.

NATICA BRODERIPIANA Recluz.

1847. Proc. Zool. Soc., p. 205.—Reeve, Con. Icon., *Natica*, fig. 66a. Mazatlan, Mexico, and southward to the Ecuador coast.

NATICA ELENÆ Recluz.

1843. Proc. Zool. Soc., p. 205.—Reeve, Con. Icon., *Natica*, fig. 94a. Panama to Santa Elena, Ecuador.

NATICA UNDATA Philippi.

1852. Arch. f. Naturg., vol. 1, p. 160.—Küster, Con. Cab., 2d. ed., *Natica*, pl. 11, fig. 12, 1852. Peru (Tschudi).

NATICA UNIFASCIATA Lamarck.

1822. An. s. Vert., vol. 6, pt. 2, p. 201.—Reeve, Con. Icon., *Natica*, fig. 49, 1855. Gulf of California, Panama and (*fide* Tschudi) Peru.

Genus POLINICES Montfort.

POLINICES ALVEATUS Troschel.

1852. *Natica alveata* Troschel, Arch. f. Naturg., p. 159, pl. 5, fig. 3. Peru (Tschudi).

POLINICES CORA Orbigny.

1840. *Natica cora* Orbigny, Voy. Am. Mér., p. 401, pl. 76, figs. 10, 11. Callao, Peru, to Caldera, Chile.

POLINICES DUBIUS Recluz.

1843. *Natica dubia* Recluz, Proc. Zool. Soc., p. 209.—Reeve, Con. Icon., *Natica*, fig. 41. Paita, Peru, to Mejillones del Sur, Chile.

POLINICES OTIS Broderip.

1829. *Natica otis* Broderip, Zool. Journ., vol. 5, p. 372.—Gray, Beechey's Voy., Zool., pl. 34, fig. 13; pl. 37, fig. 3, 1839, Gulf of California, and south to Paita, Peru, and the Galapagos Islands.

POLINICES PHILIPPIANUS Nyst.

1845. *Natica philippiana* Nyst, Bull. Acad. de Bruxelles, vol. 12, pt. 2, p. 153, n. n. for *N. acuta* Philippi, Abb., vol. 2, pl. 2, fig. 3, 1847; not *N. acuta* Deshayes, 1825. Galapagos Islands, Peru, and southern Chile.

POLINICES RAVIDUS Eydoux and Souleyet.

1852. *Natica ravida* Eydoux and Souleyet, Voy. Bonite, Zool., vol. 2, p. 582, pl. 35, figs. 12–15. Santa Elena, Ecuador, to Paita, Peru.

POLINICES UBER Valenciennes.

1833. *Natica uber* Valenciennes, Humboldt Voy., vol. 2, p. 266.—Orbigny, Voy. Am. Mér., p. 401, pl. 55, figs. 12–14, 1840. Gulf of California, south to Callao, Peru, and the Galapagos Islands.

POLINICES (EUSPIRA) AGUJANUS Dall.

1908. Bull. Mus. Comp. Zool., vol. 43, no. 6, p. 334, pl. 9, fig. 2 (young). Gulf of Panama to Sechura Bay, Peru.

POLINICES (EUSPIRA) PISIFORMIS Recluz.

1843. *Natica pisiformis* RECLUZ, Proc. Zool. Soc., p. 213.—SOWERBY, Thes. Con., *Natica*, fig. 163. Valparaiso.

POLINICES (NEVERITA) GLAUCA Humboldt.

1826. *Natica glauca* HUMBOLDT, Ms., in Lesson, Voy. Coq., Atlas, pl. 11, fig. 1; text, Zool., p. 369, 1830. Acapulco, Mexico, to Callao, Peru.

POLINICES (NEVERITA) RECLUZIANA Deshayes.

1839. *Natica recluziana* DESHAYES, Rev. Zool. Soc. Cuv., p. 361.—GUERIN, Mag. de Zool., pl. 37, 1841. Catalina Island, California, south to Mexico (and Chile, Philippi).

Genus SINUM Bolten.

SINUM CONCAVUM Lamarck.

1822. *Sigaretus concavus* LAMARCK, An. s. Vert., vol. 6, pt 2, p. 208.—SOWERBY, Gen. Sh., *Sigaretus*, fig. 1, 1823.—PHILIPPI, Abb., vol. 1, pl. 1, fig. 1, 1844. Capon, Peru, the Galapagos Islands, and south on the mainland to S. lat. 25° 30′, at Taltal, Chile.

Family MARSENIIDÆ.

Genus MARSENIOPSIS Bergh.

MARSENIOPSIS PACIFICA Bergh.

1886. Die Marseniaden, vol. 1, pp. 19–22, pl. 1, figs. 17–27. Magellan straits and northward to Calbuco, Chile.

Superfamily DOCOGLOSSA.

Family PATELLIDÆ.

Genus PATELLA Linnæus.

PATELLA MAGELLANICA Gmelin.

1791. Syst. Nat., vol. 8, p. 3703.—REEVE, Con. Icon., *Patella*, fig. 19, 1854. Magellanic Province, and northward to Puerto Montt, Chiloë Island, and the Dalcahue channel.

PATELLA MEXICANA Broderip and Sowerby.

1829. Zool. Journ., vol. 4, p. 369.—PILSBRY, Man. Con., vol. 13, p. 108, pl. 31, figs. 59–62, 1891. Gulf of California, south to Paita, Peru.

Genus NACELLA Schumacher.

NACELLA CLYPEATER Lesson.

1830. *Patella clypeater* LESSON, Voy. Coq., vol. 2, p. 419.—PILSBRY, Man. Con., vol. 13, p. 122, pl. 50, figs. 40–43, 1891. Valparaiso, and northward (to Peru, Tschudi), southward to the Magellanic region.

Genus HELCIONISCUS Dall.

HELCIONISCUS NIGRISQUAMATUS Reeve.

1854. *Patella nigrisquamata* Reeve, Con. Icon., *Patella*, fig. 3. Concepcion, Chile.

Family ACMÆIDÆ.

Genus SCURRIA Gray.

SCURRIA MESOLEUCA Menke.

1851. *Acmæa mesoleuca* Menke, Zeitschr. f. Mal., p. 38.—*Patella striata* Reeve, Con. Icon., *Patella*, fig. 99; not *P. striata* Quoy. Gulf of California, and south to Guayaquil and the Galapagos Islands.

SCURRIA PARASITICA Orbigny.

1841. *Patella parasitica* Orbigny, Voy. Am. Mér., p. 481, pl. 81, figs. 1–3; not of Reeve. Mollendo, Peru, and south to Valparaiso, Chile.

SCURRIA SCURRA Lesson.

1830. *Patella scurra* Lesson, Voy. Coq., p. 421.—Orbigny, Voy. Am. Mér., p. 478, pl. 64, fig. 11, 1841. From Callao, Peru, south to S. lat. 41°, living on the stalks of *Macrocystis*.

SCURRIA ZEBRINA Lesson.

1830. *Patella zebrina* Lesson, Voy. Coq., p. 417.—*Acmæa zebrina* Orbigny, Voy. Am. Mér., p. 480, pl. 65, figs. 1–3, 1841. Mollendo, Peru, and south to the Magellanic region.

Genus ACMÆA Eschscholtz.

ACMÆA ALBESCENS Phillippi.

1846. Zeitschr. f. Mal., p. 50. Abb., vol. 3, p. 118, pl. 2, fig. 7. 1849. Central Chile.

ACMÆA ARAUCANA Orbigny.

1841. Voy. Am. Mér., p. 482, pl. 65, figs. 4–6; not of Reeve. Paita, Peru, and south to Valparaiso, Chile.

ACMÆA CECILIANA Orbigny.

1841. *Patella ceciliana* Orbigny, Voy. Am. Mér., p. 482, pl. 81, figs. 4–6. Antofagasta to Valparaiso, Chile.

ACMÆA COFFEA Reeve.

1855. *Patella coffea* Reeve, Con. Icon., *Patella*, fig. 139. Valparaiso.

ACMÆA ORBIGNYI Dall, new name.

1909. *Acmæa scutum* Orbigny, Voy. Am. Mér., p. 479, pl. 64, figs. 8, 9, 1841. Not of Eschscholtz, Zoöl. Atlas, part 5, p. 19, pl. 23, figs. 1–3, 1833. Salaverri, Peru, and the Galapagos Islands, and south to the Magellanic region.

ACMÆA VARIABILIS Sowerby.

1839. Zoöl. Beechey's Voy., p. 147, pl. 39, fig. 5 (only). Whole Peruvian Province, and the Galapagos Islands.

ACMÆA VIRIDULA Lamarck.

1822. *Patella viridula* LAMARCK, An. s. Vert., vol. 7, p. 539. *Acmæa pretrei* ORBIGNY, Voy. Am. Mér., p. 481, pl. 78, figs. 15, 16, 1841. Paita, Peru, the Lobos Islands, and south to Valparaiso, Chile.

Superfamily RHIPIDOGLOSSA.

Family PHASIANELLIDÆ.

Genus PHASIANELLA Lamarck.

PHASIANELLA (TRICOLIA) PERFORATA Philippi.

1848. Zeitschr. f. Mal., p. 164.—PILSBRY, Man. Con., vol. 10, p. 172, pl. 39*a*, fig. 12, 1888; not of CARPENTER. Paita, Peru.

PHASIANELLA (EULITHIDIUM) MINIMA Philippi.

1860. Reise Atacama, p. 186, pl. 7, fig. 17; Paita, Peru, south to Chimba Bay, Chile, in S. lat. 23° 37′.

Family TURBINIDÆ.

Genus LEPTOTHYRA (Carpenter MS.) Dall.

LEPTOTHYRA CUNNINGHAMI Smith.

1881. *Collonia cunninghami* E. A. SMITH, Proc. Zool. Soc., p. 33, pl. 4, figs. 10, 10*a*. Chiloë, and southward.

Genus TURBO Linnæus.

TURBO MAGNIFICUS Jonas.

1847. Zeitschr. f. Mal., p. 167.—PHILIPPI, Abb., vol 2, p. 25, pl. 6, fig. 1, 1847. Manta, Ecuador, and south to Callao, Peru, and the Lobos Islands.

TURBO (PRISOGASTER) NIGER Wood.

1828. WOOD, Index Test., suppl. pl. 6, no. 1.—SOWERBY, Beechey's Voy., p. 143, pl. 36, fig. 1, 1839; Gen. Shells, *Turbo*, fig. 7, 1832. Pacasmayo, Peru, south to the Magellan straits.

TURBO (PRISOGASTER) ELEVATUS Eydoux and Souleyet.

1852. Voy. Bonite, Zool., vol. 2, p. 594, pl. 37, figs. 15–19. Caldera, Chile, south to Valparaiso.

TURBO (SENECTUS) SQUAMIGER Reeve.

1842. Proc. Zool. Soc., p. 186.—REEVE, Con. Icon., *Turbo*, fig. 21. Gulf of California, south to Paita, Peru, and the Galapagos Islands.

TURBO (CALLOPOMA) FLUCTUOSUS Wood.

1828. Index Test., suppl. pl. 6, fig. 44. Gulf of California, and Cedros Island, south to Paita, Peru.

TURBO (CALLOPOMA) SAXOSUS Wood.

1828. Index Test., suppl. pl. 6, fig. 45. Mazatlan, Mexico, and south to Paita, Peru, and the Galapagos Islands.

Genus ASTRÆA Bolten.

ASTRÆA (CYCLOCANTHA) BABELIS Fischer.

1874. *Turbo babelis* FISCHER, in Kiener, Icon., *Trochus*, pl. 78, fig. 2.—PILSBRY, Man. Con., vol. 10, p. 238, pl. 52, figs. 21–22, 1888. Santa Elena and south to Guayaquil.

ASTRÆA (UVANILLA) BUSCHII Philippi.

1844. *Trochus buschii* PHILIPPI (not KIENER) in Küster, Con. Cab., 2d ed., *Trochus*, p. 213, pl. 32, fig. 1. Gulf of California, south to Paita, Peru.

Family LIOTHDÆ.

Genus LIOTIA Gray.

LIOTIA CANCELLATA Gray.

1829. *Delphinula cancellata* GRAY, Spicil. Zoöl., p. 3.—PILSBRY, Man. Con., vol. 10, p. 109, pl. 36, fig. 2, 1888. Arica to Coquimbo, Chile.

Family TROCHIDÆ.

Genus TEGULA Lesson.

TEGULA ATRA Lesson.

1830. *Trochus ater* LESSON, Voy. Coq. Zool., p. 344, pl. 16, fig. 2.—PHILIPPI, Abb., vol. 1, p. 188, pl. 5, fig. 6, 1844. Pacasmayo, Peru, south to Magellan straits, and the Chincha Islands.

TEGULA EURYOMPHALUS Jonas.

1844. *Trochus euryomphalus* JONAS, Zeitschr. f. Mal., p. 113.—PHILIPPI, Abb., vol. 2, p. 27, pl. 6, fig. 4, 1847. Peru (Tschudi) south to Talcahuano, Chile.

TEGULA FUSCESCENS Philippi.

1844. *Trochus fuscescens* PHILIPPI, Abb., vol. 1, p. 92, pl. 3, fig. 8 (not of CARPENTER). Chile and Peru.

TEGULA GAUDICHAUDI Hupé.

1854. Hist. de Chile, vol. 8, p. 146, pl. 4, fig. 4. Valparaiso.

TEGULA LUCTUOSA Orbigny.

1841. *Trochus luctuosus* ORBIGNY, Voy. Am. Mér., p. 409, pl. 76, figs. 16–19. Ancon, Peru, and south to Valparaiso, Chile.

TEGULA LUGUBRIS Philippi.

1844. *Trochus lugubris* PHILIPPI, Abb., vol. 1, p. 91, pl. 3, fig. 7. Chile.

TEGULA MELALEUCA Jonas.

1844. *Trochus melaleucos* JONAS, Zeitschr. f. Mal., p. 169.—PHILIPPI, Abb., vol. 2, *Trochus*, p. 16, pl. 6, fig. 7, 1847. Peru.

TEGULA MOESTA Jonas.

1844. *Trochus moestus* JONAS, Zeitschr. f. Mal., p. 113.—HUPÉ, Hist. de Chile, Zoöl., pl. 4, fig. 6, 1854. Pacasmayo, Peru, south to Antofagasta, Chile.

TEGULA PANAMENSIS Philippi.

1848. *Trochus* (*Phorcus*) *panamensis* PHILIPPI, Zeitschr. f. Mal., p. 127; Conch. Cab., 2d ed., *Trochus*, p. 311, pl. 44, fig. 15. Panama to Paita, Peru.

TEGULA PATAGONICA Orbigny.

1840. *Trochus patagonicus* ORBIGNY, Voy. Am. Mér., p. 408, pl. 55, fig. 1–4; Phil., Conch. Cab., 2d ed., *Trochus*, p. 225, pl. 34, fig. 12. Lobos de Afuera Island, Peru, south to San Blas, Patagonia (Chile).

TEGULA QUADRICOSTATA Gray.

1828. WOOD, Index Test., suppl. pl. 5, fig. 16.—ORBIGNY, Voy. Am. Mér., p. 408, 1840. Peru and south to Valparaiso, Chile.

TEGULA RETICULATA Gray.

1828. *Trochus reticulatus* WOOD, Index Test., suppl. pl. 6, fig. 38. Panama, and south to Guayaquil, and the Galapagos Islands.

TEGULA SMITHII Tapparone-Canefri.

1874. *Omphalius smithii* TAPPARONE-CANEFRI, Viag. Magenta, p. 166, pl. 1, figs. 13, *a-b*. Peru.

TEGULA TRIDENTATA Potiez and Michaud.

1838. *Trochus tridentatus* POTIEZ AND MICHAUD, Gal. de Douai, vol. 1, p. 321, pl. 29, figs. 16, 17.—KIENER, Icon., *Trochus*, pl. 57, fig. 2. Sechura Bay, Peru, and southward to the Chonos archipelago, southern Chile.

Genus MONODONTA Lamarck.

MONODONTA (DILOMA) CRUSOEANA Pilsbry.

1889. Man. Conch., vol. 11, p. 98, pl. 35, figs. 19–21. Pacasmayo, Peru, south to Coquimbo, Chile, and Juan Fernandez Island.

MONODONTA (DILOMA) NIGERRIMA Gmelin.

1791. *Trochus nigerrimus* GMELIN, Syst. Nat., vol. 8, p. 3597.—ORBIGNY, Voy. Am. Mér., pl. 55, figs. 5–8, 1841.—PHILIPPI, Conch. Cab., 2d ed., *Trochus*, p. 149, pl. 24, fig. 14. Salaverri, Peru, south to the straits of Magellan.

Genus CALLIOSTOMA Swainson.

CALLIOSTOMA FONKII Philippi.

1860. *Trochus fonkii* PHILIPPI, Atacama Reise, p. 185, pl. 7, fig. 22.—PILSBRY, Man. Conch., vol. 11, p. 371, pl. 57, fig. 48, 1889. Peru, and south to the island of Chiloë.

Family VITRINELLIDÆ.

Genus CIRCULUS Jeffreys.

CIRCULUS COSMIUS Bartsch.

1907. Proc. U. S. Nat. Mus., vol. 32, no. 1520, p. 173, fig. 8. Atacamas, Ecuador, 30 fathoms.

Family NERITIDÆ.

Genus NERITA (Linnæus) Lamarck.

NERITA BERNHARDI Recluz.

1850. Journ. de Conchyl., vol. 1, p. 285 (name only).—Reeve, Con. Icon., *Nerita*, pl. 12, fig. 27, 1855. Panama to Peru.

NERITA CEROSTOMA Troschel.

1852. Arch f. Naturg., vol. 18, pt. 1, p. 179, pl. 5, fig. 5. Peru.

NERITA SCABRICOSTA Lamarck.

1822. An. s. Vert, vol. 6, pt. 2, p. 194.—Tryon, Man. Con., vol. 10, pl. 6, fig. 6, 1888. Lower California and south to Ecuador and the Galapagos Islands. Peru (Tschudi).

Genus NERITINA Lamarck.

NERITINA OWENII Mawe.

1828. Wood, Index Test., suppl. pl. 8, fig. 16. Costa Rica, and south to Paita, Peru.

NERITINA SOBRINA Recluz.

1849. In Sowerby, Thes. Con., *Neritina*, p. 536, pl. 112, fig. 100. Chile.

Superfamily ZYGOBRANCHIA.

Family FISSURELLIDÆ.

Genus FISSURELLA Bruguière

FISSURELLA BRIDGESII Reeve.

1849. Conch. Iconica, *Fissurella*, fig. 15. Paposo to Valparaiso, Chile.

FISSURELLA CLYPEUS Sowerby.

1834. Proc. Zool. Soc. p. 128; Con. Ill., *Fissurella*, fig. 77, 1835. Santa Elena, Guayaquil, Ecuador.

FISSURELLA COSTATA Lesson.

1830. Voy. Coq., vol. 2, p. 410.—Sowerby, Con. Ill., *Fissurella*, fig. 36, 1835 (as *F. chilensis*). Mollendo, Peru, to Valparaiso.

FISSURELLA CRASSA Lamarck.

1822. An. s. Vert., vol. 6, pt. 2, p. 11.—Sowerby, Con. Ill., *Fissurella*, fig. 11, 1834; not fig. 2, nor figure in Sowerby, Genera Sh., 1823. Galapagos and Pescadores Islands, Peru, and southward to the Magellanic region.

FISSURELLA FULVESCENS Sowerby.

1834. Proc. Zool. Soc., p. 127; Con. Ill., *Fissurella*, fig. 49, 1835. Valparaiso.

FISSURELLA LATA Sowerby.

1834. Proc. Zool. Soc., p. 124; Con. Ill., *Fissurella*, fig. 5, 1834. Valparaiso, and south to the Magellanic region.

FISSURELLA LATIMARGINATA Sowerby.

1834. Proc. Zool. Soc., p. 126; Con. Ill., *Fissurella*, fig. 69. Peru, and south to Valparaiso, Chile.

FISSURELLA LIMBATA Sowerby.

1834. Proc. Zool. Soc., p. 123; Con. Ill., *Fissurella*, fig. 74, 1835. Antofagasta to Valparaiso, Chile.

FISSURELLA MAXIMA Sowerby.

1834. Proc. Zool. Soc., p. 123; Con. Ill., *Fissurella*, fig. 18, 1834. Manta, Ecuador, to Valparaiso, Chile.

FISSURELLA NIGRA Lesson.

1830. Voy. Coq., Zoöl., vol. 2, p. 412.—REEVE, Con. Icon., *Fissurella*, fig. 11, 1850. Callao, Peru, south to Magellan straits.

FISSURELLA OBOVALIS Lesson.

1830. Voy. Coq., Zoöl., vol. 2, p. 411. (Unfigured.) Concepcion, Chile.

FISSURELLA ORIENS Sowerby.

1834. Proc. Zool. Soc., p. 124; Con. Ill., *Fissurella*, fig. 25, 1834. Chiloë Island, Chile.

FISSURELLA PERUVIANA Lamarck.

1822. An. s. Vert., vol. 7, pt. 2, p. 15 (not of Delessert, Rec. pl. 24, fig. 7).—REEVE, Con. Icon., *Fissurella*, fig. 26, 1849. Pacasmayo, Peru, south to Coquimbo, Chile.

FISSURELLA PHILIPPIANA Reeve.

1849. Con. Icon., *Fissurella*, fig. 37; *errata*. Concepcion, Chile.

FISSURELLA PICTA Gmelin.

1791. *Patella picta* GMELIN, Syst. Nat., vol. 8, p. 3729.—PILSBRY, Man. Con., vol. 12, p. 144, pl. 45, figs. 9–11, 1890. Manta, Ecuador, and south to the straits of Magellan.

FISSURELLA PULCHRA Sowerby.

1834. Proc.. Zool. Soc., p. 124; Con. Ill., *Fissurella*, fig. 24, 1834. Paposo, Chile, and south to Valparaiso.

FISSURELLA PUNCTATISSIMA Pilsbry.

1890. Man. Conch., vol. 12, p. 150, pl. 58, figs. 21–23. Valparaiso.

FISSURELLA RUGOSA Sowerby.

1835. Con. Ill., *Fissurella*, fig. 51. Mazatlan, Mexico, and south to Paita, Peru, and the Galapagos Islands.

FISSURELLA STELLATA Reeve.

1850. Con. Icon., *Fissurella*, fig. 80. Valparaiso.

FISSURELLA (CREMIDES) ASPERELLA Sowerby.

1834. Proc. Zool. Soc., p. 127; Con. Ill., *Fissurella*, fig. 71. Lobos Islands, Peru.

FISSURELLA (CREMIDES) MACROTREMA Sowerby.

1834. Proc. Zool. Soc., p. 125; Con. Ill., *Fissurella*, fig. 41. Panama south to the Lobos Islands, Peru, and the Galapagos Islands.

FISSURELLA (CREMIDES) OBSCURA Sowerby.

1834. Proc. Zool. Soc., p. 125; Con. Ill., *Fissurella*, fig. 27. Gulf of Panama southward to Lambayeque, Peru, and the Galapagos Islands.

FISSURELLA (CREMIDES) VIRESCENS Sowerby.

1834. Proc. Zool. Soc., p. 125; Con. Ill., *Fissurella*, fig. 51. Mazatlan, Mexico, south to Paita, Peru, and the Galapagos Islands.

Genus MEGATEBENNUS Pilsbry.

MEGATEBENNUS COKERI Dall.

1909. Proc. U. S. Nat. Mus., vol. 37, p. 178, pl. 5, figs. 3, 7. Lobos de Afuera Island, Peru.

Genus FISSURIDEA Swainson.

FISSURIDEA ALTA C. B. Adams.

1852. *Fissurella alta* C. B. Adams, Panama Sh., pp. 236, 320.—Sowerby, Thes. Con., *Fissurella*, p. 194, pl. 7, figs. 154–6, 1866. Mazatlan, Mexico, to Paita, Peru, and the Galapagos Islands.

FISSURIDEA ASPERIOR Dall, new name.

1909. *Fissurella aspera* Sowerby, Proc. Zool. Soc., 1834, p. 127; Con. Ill., *Fissurella*, fig. 46. Not of Eschscholtz, Zoöl. Atlas, 1833. Pacasmayo, Peru.

FISSURIDEA FONTAINEANA Orbigny.

1841. *Fissurella fontaineana* Orbigny, Voy. Am. Mér., p. 477, pl. 78, figs. 12, 13, Islay, Peru.

FISSURIDEA INÆQUALIS Sowerby.

1834. *Fissurella inæqualis* Sowerby, Proc. Zool. Soc., p. 126; Con. Ill., *Fissurella*, fig. 45, 1835. Lower California to Panama and the Galapagos Islands.

FISSURIDEA SATURNALIS Carpenter.

1864. *Glyphis saturnalis* Carpenter, Ann. Mag. Nat. Hist., p. 479. (Unfigured.) Cape St. Lucas, and south to the Galapagos Islands.

Genus LUCAPINELLA Pilsbry.

LUCAPINELLA ÆQUALIS Sowerby.

1834. *Fissurella æqualis* Sowerby, Proc. Zool. Soc., p. 127; Con. Ill., *Fissurella*, fig. 56, 1841. Santa Elena, Guayaquil, Ecuador.

LUCAPINELLA CALLOMARGINATA Carpenter.

1872. *Clypidella callomarginata* (Carpenter Ms.) Dall, Am. Journ. Conch., vol. 7, p. 133, pl. 15, fig. 8.—Pilsbry, Man. Con., vol. 12, p. 196, pl. 44, figs. 3, 4, 5; pl. 61, figs. 1–5, 1890. Lobitas, California, and southward to Paita, Peru, and Valparaiso, Chile.

Genus PUNCTURELLA Lowe.

PUNCTURELLA FALKLANDICA A. Adams.

1862. *Cemoria falklandica* ADAMS, Thes. Con., *Fissurellidæ*, p. 208, pl. 245, fig. 14. Falkland Islands, Patagonia, and southern Chile.

Family STOMATELLIDÆ.

Genus GENA Gray.

GENA, species.

1900. "*Gena planulata* Lamarck" T. v. BAYERN, Nachrbl. Mal. Ges., vol. 32, p. 53. Antofagasta, Chile.

Subclass ISOPLEURA.

Order POLYPLACOPHORA.

Superfamily MESOPLACOPHORA.

Family ISCHNOCHITONIDÆ.

Genus TONICELLA Carpenter.

TONICELLA (MOPALIELLA) STIGMATA Dall, new name.

1909. *Chiton bipunctatus* SOWERBY, Proc. Zool. Soc., 1832, p. 104; Con. Ill., *Chiton*, fig. 27, 1833; not of G. FISCHER, Tabl. Syn. Zoög. p. 11, 1808. Lobos Islands, Peru.

Genus CHÆTOPLEURA Shuttleworth.

CHÆTOPLEURA BENEVENTEI Plate.

1899. Zool. Jahrb., Suppl. Bd. 4, p. 194, pl. 2, fig. 143, pl. 11, fig. 305–306. Tumbes; Iquique, Chile.

CHÆTOPLEURA FERNANDENSIS Plate.

1899. Zool. Jahrb., Suppl. Bd. 4, p. 197, fig. Juan Fernandez Island.

CHÆTOPLEURA HENNAHI Gray.

1828. *Chiton hennahi* GRAY, Spicil. Zool., p. 6, no. 11.—SOWERBY, Con. Ill., *Chiton*, figs. 1, 33, 1833. Callao, Peru, 5–7 fathoms.

CHÆTOPLEURA LURIDA Sowerby.

1832. *Chiton luridus* SOWERBY, Proc. Zool. Soc., p. 26; Con. Ill., *Chiton*, fig. 20, 1833. Gulf of California, and southward to Islay, Peru.

CHÆTOPLEURA PERUVIANA Lamarck.

1819. *Chiton peruvianus* LAMARCK, An. s. Vert., vol. 6, pt. 1, p. 321; Encycl. Méth., pl. 163, figs. 7, 8.—SOWERBY, Con. Ill., *Chiton*, fig. 44. Tumbes, Peru, to Valparaiso, Chile.

Genus VARIOLEPIS Plate.

VARIOLEPIS IQUIQUENSIS Plate.

1899. Fauna Chilensis, vol. 1, p. 200, fig.; pl. 11, figs. 307–311. Iquique, Chile.

Genus ISCHNOCHITON Gray.

ISCHNOCHITON CATENULATUS Sowerby.

1832. *Chiton catenulatus* Sowerby, Proc. Zool. Soc., p. 104; Con. Ill., *Chiton*, fig. 145, 1840. Lobos Islands, Peru.

ISCHNOCHITON FIMBRIATUS Sowerby.

1840. *Chiton fimbriatus* Sowerby, Mag. Nat. Hist., p. 293; Con. Ill., *Chiton*, fig. 137. Peru.

ISCHNOCHITON IMITATOR Smith.

1881. Proc. Zool. Soc., p. 35, pl. 4, fig. 13. Tumbes, Chile, to the Magellanic region and the Falkland Islands.

ISCHNOCHITON INCA Orbigny.

1841. *Chiton inca* Orbigny, Voy. Am. Mér., p. 486, pl. 65, figs. 20–24. Islay, Peru.

ISCHNOCHITON KEILI Plate.

1899. Fauna Chilensis, vol. 2, p. 108, pl. 2, fig. 145; pl. 7, figs. 227–230. Juan Fernandez Island.

ISCHNOCHITON (STENOPLAX) LIMACIFORMIS Sowerby.

1832. *Chiton limaciformis* Sowerby, Proc. Zool. Soc., p. 26; Con. Ill., *Chiton*, fig. 38, 1833. Mazatlan, Mexico, to the Lobos Islands, Peru; also in the West Indies, and perhaps Japan.

ISCHNOCHITON PUNCTULATISSIMUS Sowerby.

1832. *Chiton punctulatissimus* Sowerby, Proc. Zool. Soc., p. 58; Con. Ill., *Chiton*, fig. 9, 1833. Tumbes, Peru, and southward to Mejillones del Sur, Chile.

ISCHNOCHITON PUSILLUS Sowerby.

1832. *Chiton pusillus* Sowerby, Proc. Zool. Soc., p. 57; Con. Ill., *Chiton*, fig. 31. Pacasmayo, Peru, in 17 fathoms, 9 miles off shore.

ISCHNOCHITON BOOGI Haddon.

1886. Challenger Chitons, p. 16, 1886.—*Chiton roseus* Sowerby, Proc. Zool. Soc., 1832, p. 58; not of Blainville, 1825; Con. Ill., *Chiton*, fig. 14, 1833. Ecuador and Peru. Also Atlantic.

ISCHNOCHITON RUGULATUS Sowerby.

1832. *Chiton rugulatus* Sowerby, Proc. Zool. Soc., p. 58; Con. Ill., *Chiton*, fig. 42, 1833. Gulf of Panama to the Lobos Islands, Peru.

ISCHNOCHITON STRAMINEUS Sowerby.

1832. *Chiton stramineus* Sowerby, Proc. Zool. Soc., p. 104; Con. Ill., *Chiton*, fig. 28. Chiloë Island, Chile.

ISCHNOCHITON VARIANS Plate.

1899. Fauna Chilensis, p. 113, fig. Tumbes, Chile, to Chiloë Island and Juan Fernandez.

Genus CALLISTOCHITON Carpenter.

CALLISTOCHITON ELENENSIS Sowerby.

1832. *Chiton elenensis* SOWERBY, Proc. Zool. Soc., p. 27; Con. Ill., *Chiton*, fig. 69, 1840. Panama to Santa Elena, Ecuador.

CALLISTOCHITON INFORTUNATUS Pilsbry.

1892. Man. Con., vol. 14, p. 266, pl. 59, figs. 37–42. Gulf of California to Ecuador.

CALLISTOCHITON PULCHELLUS Gray.

1828. *Chiton pulchellus* GRAY, Spicil. Zool., vol. 1, pt. 1, p. 6, pl. 3, fig. 9 (not of ORBIGNY). Islay, Peru, to Arica, Chile.

CALLISTOCHITON VIVIPARUS Plate.

1899. Fauna Chilensis, p. 154, pl. 9, figs. 267–281. Near Coquimbo, Chile.

Family MOPALIIDÆ.

Genus PLACIPHORELLA Carpenter.

PLACIPHORELLA BLAINVILLEI Broderip.

1832. *Chiton blainvillei* BRODERIP, Proc. Zool. Soc., p. 27; Con. Ill., *Chiton*, fig. 6, 1833. Galapagos, Cocos, and Lobos islands.

Genus PLAXIPHORA Gray.

PLAXIPHORA SETIGER, var. FREMBLII Broderip.

1832. *Chiton fremblii* BRODERIP, Proc. Zool. Soc., p. 28; Con. Ill., *Chiton*, fig. 4, 1833. Valparaiso, Chile.

PLAXIPHORA FERNANDEZI Thiele.

1909. Zoologica, vol. 22, p. 22, pl. 3, figs. 1–8. Juan Fernandez Island.

Family ACANTHOCHITIDÆ.

Genus ACANTHOCHITES Risso.

ACANTHOCHITES HIRUDINIFORMIS Sowerby.

1832. *Chiton hirudiniformis* SOWERBY, Proc. Zool. Soc., p. 59; Con. Ill., *Chiton*, figs. 23, 142. Paita to Islay, Peru, and the Galapagos Islands.

Superfamily TELEOPLACOPHORA.

Family CHITONIDÆ.

Genus CHITON Linnæus.

CHITON BRODERIPI Potiez and Michaud.

1838. Galérie de Douai, vol. 1, p. 533 (unfigured, relations unknown). Chile.

CHITON CUMINGSII Frembly.

1827. Zool. Journ., vol. 3, p. 198, suppl. pl. 16, fig. 3.—SOWERBY, Con. Ill., *Chiton*, fig. 32, 1833.—*Amaurochiton* THIELE, Gebiss d. Schn., vol. 2, p. 362, 1893. Callao, Peru, to Chiloë Island, Chile.

CHITON GLAUCOCINCTUS Frembly.

1827. Zool. Journ., vol. 3, p. 201, suppl. pl. 17, fig. 2. Valparaiso, Chile.

CHITON GRANOSUS Frembly.

1827. Zool. Journ., vol. 3, p. 200, suppl. pl. 17, fig. 1.—REEVE, Con. Icon., *Chiton*, pl. 5, fig. 27.—*Chondroplax*, THIELE, Gebiss d. Schn., vol. 2, p. 364, 1893. Callao, Peru, to the Magellanic region.

CHITON GRANULOSUS Frembly.

1827. Zoöl. Journ., vol. 3, p. 201; suppl. pl. 17, fig. 3. Isla Blanca, Peru, to Concepcion, Chile.

CHITON LATUS Sowerby.

1825. (Jan.) Tankerville Cat., app. p. v; not of LOWE (April, 1825) or GUILDING, 1829.—REEVE, Con. Icon., *Chiton*, pl. 1, fig. 3 (as *C. magnificus*). Valparaiso and Coquimbo, Chile.

CHITON PUSIO Sowerby.

1832. Proc. Zool. Soc., p. 105.—*C. murrayi* HADDON, Challenger Chitons, p. 21, pl. 1, fig. 7, pl. 3, fig. *7a–7e*, 1886. Callao, Peru, to Valparaiso, Chile.

CHITON STOKESII Broderip.

1832. Proc. Zool. Soc., p. 25.—SOWERBY, Con. Ill., *Chiton*, fig. 24, 1833. Guaymas, Mexico, south to Arica, Chile.

CHITON SUBFUSCUS Sowerby.

1832. Proc. Zool. Soc., p. 26; Con. Ill., *Chiton*, figs. 3, 41, 1833 (as *C. striatus*, BARNES). Southern Chile; Puerto Montt; Chiloë Island.

Section RADSIA Gray.

CHITON BARNESII Gray.

1828. Spicil. Zoöl., vol. 1, p. 3, pl. 6, fig. 22.—SOWERBY, Con. Ill., *Chiton*, fig. 2, 1833. Coquimbo, Chile.

CHITON GOODALLI Broderip.

1832. Proc. Zool. Soc., p. 25.—SOWERBY, Con. Ill., *Chiton*, figs. 34, 40, 1833. Galapagos Islands.

CHITON SULCATUS Wood.

1815. Gen. Conch., p. 16, pl. 3, fig. 1.—SOWERBY, Con. Ill., *Chiton*, fig. 12. Galapagos Islands.

Genus TONICIA Gray.

TONICIA ARGYROSTICTA Philippi.

1845. *Chiton argyrosticta* PHILIPPI, Arch. f. Naturg., p. 49; Atacama Reise, p. 179, pl. 7, fig. 4, 1860. Isla Blanca, Peru, to Magellan Straits.

TONICIA CALBUCENSIS Plate.

1897. Fauna Chilensis, p. 205, fig. Calbuco, Chile, S. lat. 41°.

TONICIA CHILENSIS Frembly.

1827. *Chiton chilensis* FREMBLY, Zoöl. Journ., vol. 3, p. 204, suppl. pl. 17, fig. 8. Coquimbo, Tumbes, Valparaiso, Chile.

TONICIA DISJUNCTA Frembly.

1827. *Chiton disjunctus* FREMBLY, Zoöl. Journ., vol. 3, p. 203, suppl. pl. 17, fig. 5. Tumbes and Valparaiso, Chile.

TONICIA ELEGANS Frembly.

1827. *Chiton elegans* FREMBLY, Zoöl. Journ., vol. 3, p. 203, suppl. pl. 17, fig. 6.—SOWERBY, Con. Ill., *Chiton*, fig. 75, 1840. Callao, Peru, and south to Chiloë Island, Chile.

TONICIA FONTAINEI Rochebrune.

1882. Bull. Soc. Philom., Paris, p. 193. (Unfigured.) Chile.

TONICIA GAUDICHAUDI Rochebrune.

1883. Bull. Soc. Philom., Paris, p. 35. (Unfigured.) Chile.

TONICIA GRANIFERA Sowerby.

1832. *Chiton graniferus* SOWERBY, Proc. Zool. Soc., p. 104.—REEVE, Con. Icon., *Chiton*, pl. 15, fig. 86. Concepcion, Chile, 9 fathoms.

TONICIA GRAYI Sowerby.

1832. *Chiton grayi* SOWERBY, Proc. Zool. Soc., p. 57; Con. Ill., *Chiton*, figs. 8, 16. Callao Bay, Peru.

TONICIA LINEOLATA Frembly.

1827. *Chiton lineolatus* FREMBLY, Zoöl. Journ., vol. 3, p. 204, suppl. pl. 17, fig. 7.—SOWERBY, Con. Ill., *Chiton*, fig. 154, 1840. Valparaiso and Talcahuano Bay, Chile.

TONICIA RUBIDENS Pilsbry.

1892. Man. Con., vol. 14, p. 202, pl. 44, figs. 65–67. Callao, Peru, Chile (U. S. Expl. Exp.).

TONICIA SWAINSONI Sowerby.

1832. *Chiton swainsoni* SOWERBY, Proc. Zool. Soc., p. 27; Con. Ill., *Chiton*, fig. 5, 1833. Callao, Peru, to Iquique, Chile.

Genus ACANTHOPLEURA Guilding.

ACANTHOPLEURA ECHINATA Barnes.

1823. *Chiton echinatus* BARNES, Am. Journ. Sci., vol. 7, p. 71, pl. 3, figs. 4, 4*a*.—SOWERBY, Con. Ill., *Chiton*, fig. 47 (as *C. spiniferus*). Paita, Peru, and south to Valparaiso, Chile, and the Galapagos Islands.

Genus ENOPLOCHITON Gray.

ENOPLOCHITON NIGER Barnes.

1823. *Chiton niger* BARNES, Am. Journ. Sci., vol. 7, p. 71, pl. 3, fig. 3. Mollendo, Peru, and south to Valparaiso.

Class SCAPHOPODA.

Order SOLENOCONCHA.

Family DENTALIIDÆ.

Genus DENTALIUM Linnæus.

DENTALIUM ÆQUATORIUM Pilsbry and Sharp.

1897. Man. Con., vol. 17, p. 112, pl. 21, fig. 43. Off Manta, Ecuador.

DENTALIUM INNUMERABILE Pilsbry and Sharp.

1897. Man. Con., vol. 17, p. 119, pl. 18, figs. 6–8. Magdalena Bay, Lower California, and southward to Panama and Guayaquil.

DENTALIUM NUMEROSUM Dall.

1897. Man. Con., vol. 17, p. 25, pl. 10, figs. 70–73. Todos Santos Bay, Lower California, and southward to Panama and the Galapagos Islands.

DENTALIUM QUADRANGULARE Sowerby.

1832. Proc. Zool. Soc., p. 29; Thes. Con., vol. 3, p. 103, pl. 224, fig. 31, 1860. West Coast of Nicaragua and south to Jipijapa, Ecuador.

DENTALIUM TESSARAGONUM Sowerby.

1832. Proc. Zool. Soc., p. 29.—Pilsbry and Sharp, Man. Con., vol. 17, p. 34, pl. 4, fig. 1, 1897. Gulf of Panama and south to Jipijapa, Ecuador.

Genus CADULUS Philippi.

CADULUS ALBICOMATUS Dall.

1889. Proc. U. S. Nat. Mus., vol. 12, p. 259, pl. 9, fig. 8. Gulf of Panama to vicinity of Manta, Ecuador.

CADULUS PERPUSILLUS Sowerby.

1832. *Dentalium perpusillum* Sowerby, Proc. Zool. Soc., p. 29.—Pilsbry and Sharp, Man. Con., vol. 17, p. 191, pl. 36, figs. 23, 24, 1847. Off Lower California, N. lat. 23° 33′, and south to Panama and Guayaquil.

CADULUS PLATYSTOMA Pilsbry and Sharp.

1897. Man. Con., vol. 17, p. 180, pl. 35, figs. 17, 18. Off Manta, Ecuador.

Class PELECYPODA.

Order PRIONODESMACEA.

(FOLIOBRANCHIATA.)

Superfamily NUCULACEA.

Family NUCULIDÆ.

Genus NUCULA Lamarck.

NUCULA COLOMBIANA Dall.

1908. Albatross Rep., p. 371. Panama to Patagonia.

NUCULA DECLIVIS Hinds.

1843. Proc. Zool. Soc., p. 97; Zoöl. Voy. Sulph., p. 63, pl. 18, fig. 8, 1844. Panama to Magellan Straits.

NUCULA EXIGUA Sowerby.

1832. Proc. Zool. Soc., p. 198; Con. Ill., *Nucula*, figs, 24, 24*, 1833. Acapulco, Mexico, south to Ecuador and to the Magellanic region.

NUCULA GRAYI Orbigny.

1841. Voy. Am. Mér., p. 625.—Sowerby, Con. Ill., *Nucula*, fig. 21. Valparaiso, Chile.

NUCULA PAYTENSIS A. Adams.

1856. Proc. Zool. Soc., p. 51.—Hanley, Thes. Con., *Nucula*, p. 50, pl. 5, figs, 160–161, 1860. Paita, Peru.

NUCULA PISUM Sowerby.

1832. Proc. Zool. Soc., p. 198; Con. Ill., *Nucula*, fig. 23, 1841.—Orbigny, Voy. Am. Mér., p, 624 (as *N. semiornata*), pl. 84, figs. 27–29, 1846. Valparaiso to San Blas, Chile.

Family LEDIDÆ.

Genus LEDA Schumacher.

LEDA ACUTA Conrad.

1831. *Nucula acuta* Conrad, Am. Mar. Con., p. 32, pl. 6, fig. 3 (not of Sowerby, 1839).—Sowerby, Con. Ill., *Nucula*, fig. 15 (as *N. cuneata*). California, the Gulf of Panama, and south to Valparaiso, Chile. Also Atlantic.

LEDA CALLIMENE Dall.

1908. *Leda* (*Jupiteria*) *callimene* Dall, Albatross Rep., p. 342, pl. 17, figs. 3, 4. Gulf of Panama to Tomé, Chile.

LEDA EBURNEA Sowerby.

1832. *Nucula eburnea* Sowerby, Proc. Zool. Soc., p. 198; Con. Ill., *Nucula*, fig. 10, 1833. Gulf of Panama to the Bay of Caraques, Ecuador.

LEDA ELENENSIS Sowerby.

1832. *Nucula elenensis* SOWERBY, Proc. Zool. Soc., p. 198; Con. Ill., *Nucula*, fig. 14, 1833. Santa Elena, Ecuador.

LEDA GIBBOSA Sowerby.

1832. *Nucula gibbosa* SOWERBY, Proc. Zool. Soc., p. 198; Con. Ill., *Nucula*, fig. 9, 1833. Gulf of Panama to Paita, Peru.

LEDA ORNATA Orbigny.

1846. Voy. Am. Mér., p. 546, pl. 82, figs. 4–6. Paita, Peru.

Genus YOLDIA Mörch.

YOLDIA (ADRANA) SOWERBYANA Orbigny.

1846. Voy. Am. Mér., p. 544.—SOWERBY, Con. Ill., *Nucula*, fig. 1 (as *lanceolata*), 1833.—HANLEY, Thes. Con., *Nuculidæ*, Leda No. 2, fig. 33, 1860. Jipijapa, Ecuador.

YOLDIA (ADRANA) CRENIFERA Sowerby.

1832. *Nucula crenifera* SOWERBY, Proc. Zool. Soc., p. 197; Con. Ill., *Nucula*, fig. 3. Jipijapa, Ecuador.

YOLDIA (ADRANA) ELONGATA Sowerby.

1832. *Nucula elongata* SOWERBY, Proc. Zool. Soc., p. 197; Con. Ill., *Nucula*, fig. 2, 1833. Coast of Ecuador.

Genus MALLETIA Desmoulins.

MALLETIA CHILENSIS Desmoulins.

1832. Actes Soc. Linn. de Bordeaux, vol. 5, p. 85, pl. 1. Coquimbo, south to Talcahuano Bay, Chile.

Genus TINDARIA Bellardi.

TINDARIA SULCULATA Couthouy.

1852. *Nucula sulculata* COUTHOUY, Wilkes Exp. Sh., p. 424, pl. 37, figs. 539 *a-e*. Talcahuano, Chile, south to the Magellanic region.

(FILIBRANCHIATA.)

Superfamily ARCACEA.

Genus ARCA Linnæus.

ARCA ANGULATA King.

1831. Zoöl. Journ., vol. 5, p. 336.—STEMPELL, Fauna Chilensis, vol. 2, p. 219, pl. 12, figs. 1–9, 1899. Juan Fernandez Island.

ARCA MUTABILIS Sowerby.

1833. Proc. Zool. Soc., p. 17.—REEVE, Con. Icon., *Arca*, pl. 13, fig. 35, 1844. Gulf of California to Guayaquil.

ARCA PACIFICA Sowerby.

1833. *Byssoarca pacifica* SOWERBY, Proc. Zool. Soc., p. 17.—REEVE, Con. Icon., *Arca*, pl. 11, fig. 75, 1844. Gulf of California to Paita, Peru.

ARCA ALTERNATA Sowerby.

1833. *Byssoarca alternata* Sowerby, Proc. Zool. Soc., p. 17.—Reeve, Con. Icon., *Arca*, pl. 13, fig. 88, 1844. Panama to Ecuador.

ARCA GRADATA Broderip and Sowerby.

1829. Zoöl. Journ., vol. 4, p. 365.—Reeve, Con. Icon., *Arca*, pl. 14, fig. 92, 1844. Mazatlan, Mexico, to Iquique, Chile, and the Galapagos Islands.

ARCA PUSILLA Sowerby.

1833. *Byssoarca pusilla* Sowerby, Proc. Zool. Soc., p. 18.—Reeve, Con. Icon., *Arca*, pl. 16, fig. 112, 1844. Coast of Ecuador, and south to S. lat. 23° 37′.

ARCA SOLIDA Sowerby.

1833. Proc. Zool. Soc., p. 18.—Reeve, Con. Icon., *Arca*, pl. 16, fig. 106, 1844. Gulf of California, to Paita, Peru, and the Galapagos Islands.

ARCA (BARBATIA) BIANGULATA Sowerby.

1833. *Arca biangulata* Sowerby, Proc. Zool. Soc., p. 21. Guayaquil.

ARCA (BARBATIA) DECUSSATA Sowerby.

1833. *Byssoarca decussata* Sowerby, Proc. Zool. Soc., p. 18.—Reeve, Con. Icon., *Arca*, pl. 12, fig. 81, 1844. Galapagos Islands.

ARCA (BARBATIA) LITHODOMUS Sowerby.

1833. *Byssoarca lithodomus* Sowerby, Proc. Zool. Soc., p. 16.—Reeve, Con. Icon., *Arca*, pl. 12, fig. 76, 1844. (*Barbatia* grown in a *Lithodomus* burrow?) Monte Cristi, Ecuador.

ARCA (BARBATIA) LURIDA Sowerby.

1833. *Byssoarca lurida* Sowerby, Proc. Zool. Soc., p. 19.—Reeve, Con. Icon., *Arca*, pl. 14, fig. 95, 1844. Santa Elena, Guayaquil.

ARCA (BARBATIA) REEVIANA Orbigny.

1846. *Arca reeviana* Orbigny, Voy. Am. Mér., p. 635.—*Arca helblingi* Reeve, Con. Icon., *Arca*, pl. 14, fig. 90, 1844; not of Bruguière, 1789. From Manta, Ecuador, south to Paita, Peru.

ARCA (BARBATIA) VELATA Sowerby.

1833. *Byssoarca velata* Sowerby, Proc. Zool. Soc., p. 18.—Reeve, Con. Icon., *Arca*, fig. 79, 1844. Indo-Pacific. Peru (Tschudi).

ARCA (CUCULLARIA) PLATEI Stempell.

1899. *Arca* (*Barbatia*) *platei* Stempell, Fauna Chilensis, vol. 2, p. 220, pl. 12, figs. 10–12. Juan Fernandez Island.

ARCA (SCAPHARCA) AVICULOIDES Reeve.

1844. *Arca aviculoides* Reeve, Con. Icon., *Arca*, pl. 10, fig. 63 (and pl. 6, fig. 35 as *A. auriculata* Sowerby, not Lamarck). Panama to Guayaquil.

ARCA (SCAPHARCA) BREVIFRONS Sowerby.

1833. Proc. Zool. Soc., p. 22.—Reeve, Con. Icon., *Arca*, pl. 1, fig. 6, 1844. Gulf of California to Tumbes, Peru.

ARCA (SCAPHARCA) CEPOIDES Reeve.

1844. Con. Icon., *Arca*, pl. 10, fig. 66. San Miguel, Ecuador.

ARCA (SCAPHARCA) EMARGINATA Sowerby.

1833. Proc. Zool. Soc., p. 20.—Reeve, Con. Icon., *Arca*, pl. 4, fig. 26, 1844. Gulf of California, and south to Atacames, Ecuador, and Guayaquil.

ARCA (SCAPHARCA) FORMOSA Sowerby.

1833. Proc. Zool. Soc., p. 20.—Hanley, Rec. Biv. Sh., p. 160, pl. 19, fig. 9, 1843. Lower California to Paita, Peru.

ARCA (SCAPHARCA) LABIATA Sowerby.

1833. Proc. Zool. Soc., p., 21.—Reeve, Con. Icon., *Arca*, pl. 1, fig. 7, 1844. San Diego, California, to Tumbes, Peru.

ARCA (SCAPHARCA) LABIOSA Sowerby.

1833. Proc. Zool. Soc., p. 21.—Reeve, Con. Icon., *Arca*, pl. 10, fig. 67, 1844. Tumbes, Peru.

ARCA (SCAPHARCA) NUX Sowerby.

1833. Proc. Zool. Soc., p. 19.—Reeve, Con. Icon., *Arca*, pl. 1, fig. 1, 1844. Panama to Ecuador. Jipijapa, 12 fathoms.

ARCA (SCAPHARCA) OBESA Sowerby.

1833. Proc. Zool. Soc., p. 21.—Reeve, Con. Icon., *Arca*, pl. 1, fig. 3, 1844. Ecuador coast.

ARCA (SCAPHARCA) TUBERCULOSA Sowerby.

1833. Proc. Zool. Soc., p. 19.—Philippi, Abb., vol. 1, p. 44, pl. 1, fig. 2, 1843. Ballenas lagoon, Lower California, to Tumbes, Peru.

ARCA (CUNEARCA) ÆQUATORIALIS Orbigny.

1846. Voy. Am. Mér., p. 636.—*Arca ovata* Reeve (not Gmelin, 1791), Con. Icon., *Arca*, pl. 8, fig. 49, 1844. Santa Elena, Ecuador.

ARCA (CUNEARCA) CARDIIFORMIS Sowerby.

1833. Proc. Zool. Soc., p. 22.—Reeve, Con. Icon., *Arca*, pl. 3, fig. 17, 1844. Gulf of California to Paita, Peru.

ARCA (ANADARA) GRANDIS Broderip and Sowerby.

1829. Zool. Journ., vol. 4, p. 365.—Reeve, Con. Icon., *Arca*, pl. 1, fig. 4, 1844. Magdalena Bay, Lower California, to Tumbes, Peru.

ARCA (NOËTIA) REVERSA Sowerby.

1833. Proc. Zool. Soc., p. 20.—Reeve, Con. Icon., *Arca*, pl. 1, fig 5, 1844. Gulf of California to Tumbes, Peru.

Genus GLYCYMERIS Da Costa.

GLYCYMERIS CHEMNITZII Dall, new name.

1909. *Pectunculus minor* Orbigny, Voy. Am. Mér., 1846, p. 628, not of I. Lea, 1833. Gulf of California, south to Monte Cristi, Ecuador.

GLYCYMERIS INÆQUALIS Sowerby.

1832. *Pectunculus inæqualis* Sowerby, Proc. Zool. Soc., p. 196 (not of Sowerby, 1839).—Reeve, Con. Icon., *Pectunculus*, pl. 4, fig. 16, 1843. Mazatlan, Mexico, south to Sechura Bay, Peru.

GLYCYMERIS MULTICOSTATA Sowerby.

1832. *Pectunculus multicostatus* Sowerby, Proc. Zool. Soc., p. 195.—Reeve, Con. Icon., *Pectunculus*, pl. 5, fig. 24, 1843. Mazatlan, Mexico, to Guayaquil.

GLYCYMERIS OVATA Broderip.

1832. *Pectunculus ovatus* Broderip, Proc. Zool. Soc., p. 126.—Reeve, Con. Icon., *Pectunculus*, pl. 1, fig. 2, 1843. Lobos Islands, Peru, to Coquimbo, Chile.

GLYCYMERIS STRIGILATA Sowerby.

1832. *Pectunculus strigilatus* Sowerby, Proc. Zool. Soc., p. 196.—Reeve, Con. Icon., *Pectunculus*, pl. 6, fig. 31, 1843. Santa Elena, Ecuador.

GLYCYMERIS TESSELLATA Sowerby.

1832. *Pectunculus tessellatus* Sowerby, Proc. Zool. Soc., p. 196.—Reeve, Con. Icon., *Pectunculus*, pl. 6, fig. 29, 1843. Cape St. Lucas, Lower California, to Monte Cristi, Ecuador.

Superfamily PTERIACEA.

Family PINNIDÆ.

Genus PINNA Linnæus.

PINNA LANCEOLATA Sowerby.

1835. Proc. Zool. Soc., p. 84.—Reeve, Con. Icon., *Pinna*, pl. 31, fig. 58, 1858. Gulf of California, and south to Guayaquil.

PINNA MAURA Sowerby.

1835. Proc. Zool. Soc., p. 84.—Reeve, Con. Icon., *Pinna*, pl. 29, fig. 54, 1858. Gulf of California to Panama. Peru (Tschudi).

Family MELINIDÆ.

Genus MELINA Retzius.

MELINA LEGUMEN Gmelin.

1791. *Ostrea legumen* Gmelin, Syst. Nat., vol. 8, p. 3399.—Reeve, Con. Icon., *Perna*, pl. 5, fig. 22, 1858. Galapagos Islands.

MELINA QUADRANGULARIS Reeve.

1858. *Perna quadrangularis* Reeve, Con. Icon., *Perna*, pl. 2, fig. 6. Galapagos Islands.

Family PTERIIDÆ.

Genus PTERIA Scopoli.

PTERIA PERUVIANA Reeve.

1857. *Avicula peruviana* REEVE, Con. Icon., *Avicula*, pl. 14, fig. 53. Gulf of California to Paita, Peru.

Genus MARGARITIPHORA Megerle.

MARGARITIPHORA CUMINGI Reeve.

1857. *Avicula cumingi* REEVE, Con. Icon., pl. 4, fig. 6. Paita, Peru, and the Galapagos Islands.

Superfamily OSTRACEA.

Family OSTREIDÆ.

Genus OSTREA Linnæus.

OSTREA ÆQUATORIALIS Orbigny.

1846. Voy. Am. Mér., p. 672. Bay of Guayaquil (on trees). Paita, Peru.

OSTREA CALLICHROA Hanley.

1845. Proc. Zool. Soc., p. 107.—SOWERBY, Con. Icon., *Ostrea*, pl. 4, fig. 6, 1870. Chiloë Island, Chile.

OSTREA CHILENSIS Philippi.

1845. Con. Cab., ed. 2, *Ostrea*, p. 74, pl. 13, figs. 7, 8. Coast of Ecuador, south to Chiloë Island, Chile.

OSTREA COLUMBIENSIS Hanley.

1845. Proc. Zool. Soc., p. 107.—SOWERBY, Con. Icon., *Ostrea*. pl. 7, fig. 10*a–b*, 1871. Gulf of California, south to Coquimbo, Chile.

OSTREA LONGIUSCULA Hupé.

1854. Hist. de Chile, Zoöl., Mol., p. 282, pl. 5, fig. 3. Coquimbo, Chile.

OSTREA MEGODON Hanley.

1845. Proc. Zool. Soc., p. 106.—SOWERBY, Con. Icon., *Ostrea*, pl. 12, fig. 24, 1871. Scammon Lagoon, Lower California, to Sechura Bay, Peru. Fossil, Antilles.

OSTREA VINOLENTA Hupé.

1854. Hist. de Chile, Zoöl., Mol., p. 282, pl. 5, fig. 2. Coquimbo, Chile.

Superfamily PECTINACEA.

Family PECTINIDÆ.

Genus PECTEN Müller.

PECTEN DENTATUS Sowerby.

1835. Proc. Zool. Soc., p. 109; Thes. Con., vol. 1, *Pecten*, p. 49, pl. 15, figs. 105, 106, 1843. Santa Elena, Ecuador, to Paita, Peru.

PECTEN DIGITATUS Hinds.

1844. Zoöl. Sulph. Voy., Moll., p. 61, pl. 17, fig. 2. Bay of Guayaquil.

PECTEN PATAGONICUS King.

1831. Zoöl. Journ., vol. 5, p. 337.—SOWERBY, Thes. Con., vol. 1, p. 54, pl. 13, fig. 60, 1842. Magellanic Region, north to Chiloë Island and Puerto Montt.

PECTEN PURPURATUS Lamarck.

1819. An. s. Vert., vol. 6, pt. 1, p, 166.—SOWERBY, Thes. Con., vol. 1, p. 53, pl. 15, fig. 113; pl. 16, figs. 123–125, 1843. Panama and south to Coquimbo, Chile.

PECTEN ROSACEUS Stempell.

1899. Fauna Chilensis, p. 228.—*P. australis* PHILIPPI, Arch. f. Naturg., vol. 11, p. 56, 1845; not of SOWERBY, 1842. Calbuco, Chiloë, and the Chonos Islands.

PECTEN SUBNODOSUS Sowerby.

1835. Proc. Zool. Soc., p. 109, no. 1; Thes. Con., *Pecten*, p. 65, pl. 15, figs. 97, 112. Gulf of California to Guayaquil and the Galapagos Islands.

PECTEN TUMBEZENSIS Orbigny.

1846. Voy. Am. Mér., p. 663.—*P. aspersus* SOWERBY (not of LAMARCK), Thes. Con., *Pecten*, p. 51, pl. 19, figs. 198–9, 1843. Tumbes and Paita, Peru.

PECTEN VENTRICOSUS Sowerby.

1842. Thes. Con., *Pecten*, p. 51, pl. 12, figs. 18, 19, 26. Gulf of of Panama, south to Paita, Peru.

Family SPONDYLIDÆ.

Genus SPONDYLUS Linnæus.

SPONDYLUS CRASSISQUAMA Lamarck.

1819. An. s. Vert., vol. 6, p. 191.—SOWERBY, Thes. Con., *Spondylus* (as *S. pictorum* CHEMNITZ), p. 422, pl. 85, fig. 17; pl. 86, fig. 28; pl. 88, fig. 45, 1847. Panama to Guayaquil.

Genus PLICATULA Lamarck.

PLICATULA DUBIA Hanley.

1847. SOWERBY, Thes. Con., *Plicatula*, p. 437, pl. 91, fig. 19.—HANLEY, Rec. Biv. Sh., p. 289, 1856. Panama to Guayaquil.

Family LIMIDÆ.

Genus LIMA Cuvier.

LIMA ANGULATA Sowerby.

1843. Proc. Zool. Soc., p. 23; Thes. Con., vol. 1, p. 86, pl. 22, figs. 39, 40, 1843. Gulf of Panama and southward to Juan Fernandez Island.

LIMA GALAPAGENSIS Pilsbry and Vanatta.

1902. Proc. Wash. Acad. Sci., vol. 4, p. 556, pl. 35, fig. 4. Galapagos Islands.

LIMA PACIFICA Orbigny.

1846. Voy. Am. Mér., p. 654.—*L. arcuata* SOWERBY (not GEINITZ, 1840), Thes. Con., vol. 1, p. 86, pl. 22, figs. 41–42, 1843. Panama to Guayaquil and the Galapagos Islands.

Superfamily ANOMIACEA.

Family ANOMIIDÆ.

Genus ANOMIA Linnæus.

ANOMIA ADAMAS Gray.

1849. Proc. Zool. Soc., p. 117.—REEVE, Con. Icon., *Anomia*, pl. 3, fig. 15, 1859. Gulf of California to Sechura Bay, Peru, and the Galapagos Islands.

ANOMIA PACILUS Gray.

1849. Proc. Zool. Soc., p. 117.—REEVE, Con. Icon., *Anomia*, pl. 4, fig. 19, 1859. Tumbes, Peru.

ANOMIA PERUVIANA Orbigny.

1846. Voy. Am. Mér., p. 673.—PHILIPPI, Abb., vol. 3, p. 211, pl. 1, fig. 2, 1850. San Pedro, California, south to Panama, and to Paita, Peru.

Genus MONIA Gray.

MONIA FOLIATA Broderip.

1834. *Placunanomia foliata* BRODERIP, Proc. Zool. Soc., p. 2.—REEVE, Con. Icon., *Placunanomia*, pl. 1, fig. 5, 1859. San Pedro, California, and south to Guayaquil.

Superfamily MYTILACEA.

Family MYTILIDÆ.

Genus MYTILUS Linnæus.

MYTILUS ADAMSIANUS Dunker.

1856. Proc. Zool. Soc., p. 360.—REEVE, Con. Icon., *Mytilus*, pl. 11, fig. 55. Gulf of Panama, to the Galapagos Islands.

MYTILUS ATER Molina.

1782. Stor. Nat. Chile, p. 203.—*M. orbignyanus* HUPÉ, Hist. de Chile, Mol., p. 211, pl. 5, fig. 5, 1854. Manta, Ecuador, and south to Talcahuano, Chile, with the Galapagos Islands.

MYTILUS CHILENSIS Hupé.

1854. Hist. de Chile, Mol., p. 309, pl. 5, fig. 4. Valparaiso, Chile, and southward to the Magellanic region.

MYTILUS CHORUS Molina.

1782. Stor. Nat. Chile, p. 202.—REEVE, Con. Icon., *Mytilus*, fig. 4. Pacasmayo, Peru, south to Coquimbo, Chile.

MYTILUS DACTYLIFORMIS Hupé.

1854. Hist. de Chile, Mol., p. 310, pl. 5, fig. 6. Isla Blanca del Chimba, Chile, to Corral.

MYTILUS GRANULATUS Hanley.

1844. Proc. Zool. Soc., p. 17; Rec. Biv. Sh., p. 246, pl. 24, fig. 33, 1844.—HUPÉ, Hist. de Chile, Mol., p. 312, pl. 5, fig. 7, 1854. Lobos Islands, Peru, and south to the island of Chiloë.

MYTILUS MAGELLANICUS Lamarck.

1819. An. s. Vert., vol. 6, pt. 1, p. 119; Encycl. Méth. pl. 217, fig. 2. Callao, Peru, south to the Magellanic region.

MYTILUS PATAGONICUS Orbigny.

1889. In CLESSIN, Conch. Cab., 2d ed. *Mytilacea*, p. 82, pl. 18, figs. 5, 6. Chile and southward.

MYTILUS PILOSUS Reeve.

1858. (RECLUZ, ms. in) REEVE, Con. Icon., *Mytilus*, pl. 8, fig. 35. Iquique to Coquimbo, Chile, and Juan Fernandez Island.

MYTILUS SPLENDENS Dunker.

1856. Proc. Zool. Soc., p. 368. Peru.

MYTILUS STEARNSII Pilsbry and Raymond.

1898. Nautilus, vol. 12, no. 6, p. 70, pl. 4, figs. 1, 2, 3. San Diego, California, and southward. (Chile, Dautzenberg, Oahu, Conrad.)

Genus MODIOLUS Lamarck.

MODIOLUS ARCIFORMIS Dall.

1909. Proc. U. S. Nat. Mus., vol. 37, p. 152, pl. 28, fig. 2, Huaquilla, Ecuador.

MODIOLUS GUYANENSIS Lamarck.

1819. *Modiola guyanensis* LAMARCK, An. s. Vert., vol. 6, pt. 1, p. 112.—REEVE, Con. Icon., *Modiola*, pl. 4, fig. 17, 1857. Lower California to Tumbes, Peru. Also Guiana, and Brazil at Rio Janeiro.

MODIOLUS MUTABILIS Carpenter.

1856. *Modiola* (*braziliensis* var. ?) *mutabilis* CARPENTER, Mazatlan Cat., p. 122. Mazatlan to Ecuador.

MODIOLUS PURPURATUS Lamarck.

1819. An. s. Vert., vol. 6, p. 113.—CLESSIN, Conch. Cab., 2d ed., p. 128, (*ovalis*) pl. 33, figs. 4, 5, 1889. Ecuador, south to Concepcion, Chile.

MODIOLUS SPECIOSUS Dunker.

1889. Conch. Cab., 2d ed., *Mytilacea*, p. 112, pl. 81, fig. 1. Panama, south to Paita, Peru.

Genus ADULA H. and A. Adams.

ADULA SOLENIFORMIS Orbigny.

1846. *Mytilus soleniformis* ORBIGNY, Voy. Am. Mér., p. 649, pl. 85, fig. 17, 18. Paita, Peru.

Genus LITHOPHAGA Bolten.

LITHOPHAGA ARISTATA Dillwyn.

1817. *Mytilus aristatus* (SOLANDER Ms.) DILLWYN, Rec. Shells, I, p. 303.—WOOD, Index Test., pl. 12, fig. 8, 1825. Gulf of California south to the Chilean coast. Red Sea, Senegal, West Indies.

LITHOPHAGA ATTENUATA Deshayes.

1836. *Modiola attenuata* DESHAYES, An. s. Vert., 2d ed., vol. 7, p. 28.—SOWERBY, Gen. Sh., *Lithodomus*, fig. 3, 1824.—PHILIPPI, Abb., vol. 2, p. 148, pl. 1, fig. 6, 1847. Coast of Peru (at Callao, in nullipore) and Chile.

LITHOPHAGA INCA Orbigny.

1846. *Lithodomus inca* ORBIGNY, Voy. Am. Mér., p. 651. Paita, Peru.

LITHOPHAGA PERUVIANA Orbigny.

1846. *Lithodomus peruvianus* ORBIGNY, Voy. Am. Mér., p. 651. Callao, Peru, and Arica, Chile.

Order ANOMALODESMACEA.

Superfamily ANATINACEA.

Family PERIPLOMATIDÆ.

Genus PERIPLOMA Schumacher.

PERIPLOMA LENTICULARIS Sowerby.

1834. Proc. Zool. Soc., p. 87. Muerte Island, Ecuador.

PERIPLOMA PLANIUSCULA Sowerby.

1834. Proc. Zool. Soc., p. 87.—HANLEY, Rec. Biv. Sh., pp. 21, 339; suppl. pl. 10, fig. 33, 1842. Santa Elena, Ecuador.

Family PANDORIDÆ.

Genus PANDORA Schumacher.

PANDORA RADIATA Sowerby.

1830. Species Conch., figs. 23. 24; Proc. Zool. Soc., p. 94, 1835. Muerte Island, Ecuador.

Genus CLIDIOPHORA Carpenter.

CLIDIOPHORA ARCUATA Sowerby.

1830. *Pandora arcuata* SOWERBY, Species Conch., figs. 27, 28; Proc. Zool. Soc., p. 93, 1835. Santa Elena, Ecuador.

Family LYONSIIDÆ.

Genus ENTODESMA Philippi.

ENTODESMA CUNEATA Gray.

1828. *Anatina cuneata* GRAY, Spicil. Zool., vol. 1, pl. 3, fig. 14. Coast of Ecuador, south to the Magellanic region.

(SEPTIBRANCHIATA.)

Superfamily POROMYACEA.

Family CUSPIDARIIDÆ.

Genus CUSPIDARIA Nardo.

CUSPIDARIA COSTATA Sowerby.

1834. *Anatina costata* SOWERBY, Proc. Zool. Soc., p. 87. Coast of Costa Rica, and south to Santa Elena, Ecuador.

Order TELEODESMACEA.

(NASSIBRANCHIATA.)

Superfamily ASTARTACEA.

Family CRASSATELLITIDÆ.

Genus CRASSATELLITES Krüger.

CRASSATELLITES GIBBOSUS Sowerby.

1832. *Crassatella gibbosa* SOWERBY, Proc. Zool. Soc., p. 56.—REEVE, Con. Icon., *Crassatella*, pl. 1, fig. 1, 1843. Gulf of California, south to Paita, Peru.

Superfamily CYRENACEA.

Family CYRENIDÆ.

Genus CYRENA Lamarck.

CYRENA ANOMALA Deshayes.

1854. Proc. Zool. Soc., p. 21.—PRIME, Mon. Corbic., p. 30, fig. 24, 1865.—REEVE, Con. Icon., *Cyrena*, pl. 19, fig. 109, 1876. Coasts of Ecuador and Peru.

CYRENA CHILINA Prime.

1867. Ann. Lyc. N. Hist. N. York, vol. 8, p. 418. Chile.

CYRENA CORDIFORMIS Recluz.

1853. Journ. de Conchyl., vol. 4, p. 251, pl. 7, fig. 9. Paita, Peru.

CYRENA FONTAINEI Orbigny.

1844. Voy. Am. Mér., p. 569, pl. 83, figs. 14–15. Guayaquil, Ecuador.

CYRENA FORTIS Prime.

1861. Journ. de Conchyl., vol. 9, p. 355; vol. 10, p. 387, pl. 14, fig. 2, 1862. Ecuador.

CYRENA ISOCARDIOIDES Deshayes.

1854. Proc. Zool. Soc., p. 22.—PRIME, Mon. Corbic., p. 25, 1865; Proc. U. S. Nat. Mus., vol. 37, p. 159, pl. 26, fig. 4. Ecuador coast. Estero Bendito, Tumbes, Peru.

CYRENA MERIDIONALIS Prime.

1865. Mon. Corbiculidæ, p. 19, fig. 14. Paita, Peru.

CYRENA NOTABILIS Deshayes.

1854. Proc. Zool. Soc., p. 21.—Sowerby, Con. Icon., *Cyrena*, pl. 18, fig. 107, 1876, Paita, Peru.

Superfamily CARDITACEA.

Family CARDITIDÆ.

Genus CARDITA Bruguière.

CARDITA GRAYI Dall.

1903. Proc. Acad. Nat. Sci. Phila. for 1902, p. 706.—Reeve, Con. Icon., *Cardita*, pl. 7, fig. 32, 1843.—*Cardita crassa* Gray, Beechey's Voy., 1839, not of Lamarck, 1819. Gulf of California to Guayaquil and the Galapagos Islands.

CARDITA LATICOSTATA Sowerby.

1832. Proc. Zool. Soc., p. 195.—Reeve, Con. Icon., *Cardita*, pl. 7, fig. 36, 1843. Guaymas, Mexico, to Panama and Guayaquil, Ecuador.

CARDITA (GLANS) NAVIFORMIS Reeve.

1843. *Cardita naviformis* Reeve, Con. Icon., *Cardita*, pl. 9, fig. 45. Arica to Valparaiso, Chile.

Genus CARDITAMERA Conrad.

CARDITAMERA RADIATA Sowerby.

1832. *Cardita radiata* Sowerby, Proc. Zool. Soc., p. 195.—Reeve, Con. Icon., *Cardita*, pl. 1, figs. *5a–b*, 1843. Costa Rican coast and southward to Guayaquil, Ecuador.

Genus VENERICARDIA Lamarck.

VENERICARDIA COMPRESSA Reeve.

1843. *Cardita compressa* Reeve, Con. Icon., *Cardita*, pl. 9, fig. 46. Valparaiso, Chile, and southward.

VENERICARDIA CRASSICOSTATA Sowerby.

1825. *Cardita crassicostata* Sowerby, Tankerville Cat., app. p. iv.—Reeve, Con. Icon., *Cardita*, pl. 5, figs. 25–26; pl. 8, fig. 38, 1843. Gulf of California, and southward to Ecuador and the Galapagos Ids.

VENERICARDIA PÆTELIANA Clessin.

1888. *Cardita paeteliana* Clessin, Con. Cab., 2d ed., *Cardita*, p. 20, pl. 6, figs 7–8. Iquique, Chile.

VENERICARDIA SPURCA Sowerby.

1832. Proc. Zool. Soc., p. 195.—Reeve, Con. Icon., *Cardita*, pl. 7, fig. 32, 1843. Callao, Peru, and southward to the Magellanic region.

VENERICARDIA VELUTINA E. A. Smith.

1881. Proc. Zool. Soc., p. 42, pl. 5, fig. 8. Chiloë Island and southward to Punta Arenas.

Family CONDYLOCARDIIDÆ.

Genus CARDITELLA Smith.

CARDITELLA PYGMÆA Philippi.

1860. *Cardium pygmæum* PHILIPPI, Atacama Reise, p. 176, Zoöl., pl. 7, figs. 3*a–c*. Isla Blanca, Chile. S. lat. 23° 30′.

CARDITELLA SEMEN Reeve.

1843. *Cardita semen* REEVE, Con. Icon., *Cardita*, pl. 9, fig. 43, 1843. Cobija, Chile, south to Isla Blanca.

CARDITELLA TEGULATA Reeve.

1843. *Cardita tegulata* REEVE, Con. Icon., *Cardita*, pl. 9, fig. 48. Callao, Peru, to Valparaiso, Chile.

Genus CARDITOPSIS Smith.

CARDITOPSIS FLABELLUM Reeve.

1843. *Cardita flabellum* REEVE, Con. Icon., *Cardita*, pl. 9, fig. 47. Callao, Peru, to Valparaiso, and southward to Magellan Straits.

Superfamily CHAMACEA.

Family CHAMIDÆ.

Genus CHAMA Bruguière.

CHAMA ECHINATA Broderip.

1835. Trans. Zoöl. Soc. London, vol. 1, p. 305, pl. 39, figs. 5–7. Panama and southward to Piata, Peru.

CHAMA FRONDOSA Broderip.

1835. Trans. Zoöl. Soc. London, vol. 1, p. 302, pl. 38, figs. 1, 2. Gulf of Panama to Guayaquil and the Galapagos Islands.

CHAMA PELLUCIDA Broderip.

1834. Proc. Zoöl. Soc., p. 50; Trans. Zoöl. Soc. London, vol. 1, p. 302, pl. 38, fig. 3, 1835. San Pedro, California, south to Valparaiso, Chile, and Juan Fernandez Island.

Superfamily LUCINACEA.

Family LUCINIDÆ.

Genus PHACOIDES Blainville.

PHACOIDES FENESTRATUS Hinds.

1844. *Lucina fenestrata* HINDS, Zoöl. Sulph. Voy., Moll., p. 66, pl. 19, fig. 2. Lower California to Panama and to Tumbes, Peru.

PHACOIDES TELLINOIDES Reeve.

1850. *Lucina tellinoides* REEVE, Con. Icon., *Lucina*, pl. 9, fig. 56. Magdalena Bay, Lower California, to Guayaquil, Ecuador.

Family DIPLODONTIDÆ.

Genus DIPLODONTA Bronn.

DIPLODONTA ARTEMIDIS Dall.

1909. Proc. U. S. Nat. Mus., vol. 37, p. 156, pl. 28, fig. 8. Capon, Peru.

DIPLODONTA CÆLATA Reeve.

1850. *Lucina cælata* Reeve, Con. Icon., *Lucina*, pl. 6, fig. 27. Bay of Guayaquil.

DIPLODONTA INCONSPICUA Philippi.

1842. Arch. f. Naturg., p. 74.—Hupé, Hist. de Chile, Zoöl., p. 357, pl. 8, fig. 4, 1854. Mejillones, Chile, south to Chiloë Island.

DIPLODONTA PUNCTATA Say.

1822. *Amphidesma punctata* Say, Journ. Acad. Nat. Sci. Phila., I, p. 308.—Reeve, Con. Icon., *Lucina*, pl. 8, fig. 43, 1850. Chiloë Island and Atlantic coast.

DIPLODONTA SERICATA Reeve.

1850. *Lucina sericata* Reeve, Con. Icon., *Lucina*, pl. 9, fig. 25, 1850. Gulf of California to Guayaquil, Ecuador.

Family THYASIRIDÆ.

Genus THYASIRA Leach.

THYASIRA TOMEANA Dall.

1901. Proc. U. S. Nat. Mus., vol. 23, p. 818, pl. 39, fig. 3. Tomé, Chile.

Family LEPTONIDÆ.

Genus ERYCINA (Lamarck) Recluz.

ERYCINA? DUBIA Deshayes.

1855. Proc. Zool. Soc., p. 183. Guayaquil.

Genus BORNIA Philippi.

BORNIA? PAPYRACEA Deshayes.

1855. *Erycina papyracea* Deshayes, Proc. Zool. Soc., p. 183. Santa Elena, Bay of Guayaquil.

BORNIA PLATEI Stempell.

1899. *Lepton platei* Stempell, Fauna Chilensis, vol. 2, pt. 1, p. 233, figs. 20–21. Juan Fernandez Island.

Genus KELLIA Turton.

KELLIA BULLATA Philippi.

1845. Arch. f. Naturg., vol. 11, p. 51; Reise Atacama, p. 175, Zoöl., pl. 7, figs. 1*a*–*c*, 1860. Cobija, Chile, and south to Punta Arenas.

KELLIA SUBORBICULARIS Montagu.

1804. *Mya suborbicularis* MONTAGU, Test. Brit., pp. 39, 564, pl. 2, fig. 6.—TURTON, Dithyra Brit., p. 56, pl. 11, figs. 5, 6, 1822. Straits of Fuca, British Columbia, south to Panama, Ecuador, and Peru. Also Antilles.

KELLIA TUMBESIANA Stempell.

1899. *Diplodontina tumbesiana* STEMPELL, Fauna Chilensis, Bd. 2, pt. 1, p. 232, pl. 12, figs. 18, 19, 19*a*. Tumbes peninsula, near Talcahuano, Chile.

Genus ROCHEFORTIA Vélain.

ROCHEFORTIA COQUIMBENSIS Hanley.

1856. *Montacuta coquimbensis* HANLEY, Proc. Zoöl. Soc., p. 340, Coquimbo, Chile.

Genus LASÆA Leach.

LASÆA PETITIANA Recluz.

1843. *Poronia petitiana* RECLUZ, Rev. Sci. Soc. Cuv., p. 175.—*Kellia miliaris* PHILIPPI, Reise Atacama, p. 175, Zoöl., pl. 7, figs. 2*a–c*, 1860. Callao, Peru, south to Magellan Straits and Juan Fernandez.

Family KELLIELLIDÆ.

Genus ALIGENA H. C. Lea.

ALIGENA COKERI Dall.

1909. Proc. U. S. Nat. Mus., vol. 37, p. 155, pl. 28, figs. 5, 6. Attached to wormcases by a byssus, at the "inside beach," Capon, Peru.

Superfamily CARDIACEA.

Family CARDIIDÆ.

Genus CARDIUM (Linnæus) Lamarck.

CARDIUM (TRACHYCARDIUM) CONSORS Broderip and Sowerby.

1833. *Cardium consors* BRODERIP and SOWERBY, Proc. Zool. Soc., p. 85.—SOWERBY, Con. Ill., *Cardium*, p. 3, no. 40, pl. 47, fig. 8, 1833. Gulf of California to Guayaquil and the Galapagos Islands.

CARDIUM (TRACHYCARDIUM) MACULOSUM Wood.

1815. Gen. Conch., p. 218, pl. 52, fig. 3; not of SOWERBY, 1833? Con. Ill., vol. 1, p. 4, pl. 182, fig. 63, 1840. Gulf of Panama to Guayaquil.

CARDIUM (TRACHYCARDIUM) SENTICOSUM Sowerby.

1833. *Cardium senticosum* SOWERBY, Proc. Zool. Soc., p. 84; Con. Ill., *Cardium*, pl. 47, fig. 10, 1840. Gulf of California to Paita, Peru.

CARDIUM (RINGICARDIUM) PROCERUM Sowerby.

1832. *Cardium procerum* SOWERBY, Proc. Zool. Soc., p. 83; Con. Ill., vol. 1, p. 5, pl. 50, fig. 23, 1834. Cedros Island, Lower California, south to the Lobos Islands, Peru.

CARDIUM (TRIGONIOCARDIA) GRANIFERUM Broderip and Sowerby.

1829. *Cardium graniferum* BRODERIP and SOWERBY, Zool. Journ., vol. 4, p. 367. Con. Ill., *Cardium*, p. 3, no 38, pl. 49, fig. 17, 1834. Gulf of California and south to Guayaquil.

CARDIUM (TRIGONIOCARDIA) OBOVALE Sowerby.

1833. *Cardium obovale* SOWERBY, Proc. Zool. Soc., p. 84; Con. Ill., *Cardium*, pl. 46, fig. 4, 1833. Magdalena Bay, Lower California, and south to the coast of Ecuador.

CARDIUM (FRAGUM) BIANGULATUM Sowerby.

1829. *Cardium biangulatum* SOWERBY, Zool. Journ., vol. 4, p. 367. Con. Ill., *Cardium*, fig. 2, 1833. Catalina Island, California, south to Guayaquil.

CARDIUM (FRAGUM) MAGNIFICUM Deshayes.

1857. CARPENTER, Rep. Brit. Assoc., 1857, p. 187.—*C. planicostatum* SOWERBY, Con. Ill., *Cardium*, no. 83, pl. 50, fig. 25, 1834. Lower California south to Paita, Peru.

CARDIUM (PAPYRIDEA) ASPERSUM Sowerby.

1833. *Cardium aspersum* SOWERBY, Proc. Zool. Soc., p. 85; Con. Ill., *Cardium*, fig. 15, 1834. Magdalena Bay, Lower California, to Guayaquil.

CARDIUM (LÆVICARDIUM) ELENENSE Sowerby.

1840. *Cardium elenense* SOWERBY, Proc. Zool. Soc., p. 109; Con. Ill., *Cardium*, pl. 181, fig. 58, 1840. Gulf of California to Guayaquil and Clarion Island.

Superfamily VENERACEA.

Family VENERIDÆ.

Genus DOSINIA Scopoli.

DOSINIA DUNKERI Philippi.

1844. *Cytherea dunkeri* PHILIPPI, Abb., vol. 1, p. 4, pl. 2, fig. 9.—SOWERBY, Thes. Con., *Artemis*, pl. 140, fig. 5. Gulf of California, south to Tumbes, Peru, and the Galapagos Islands.

DOSINIA PONDEROSA Gray.

1838. *Artemis ponderosa* GRAY, in Analyst, vol. 8, p. 309.—PHILIPPI, Abb., vol. 1, *Cytherea*, p. 171.—SOWERBY, Thes. Con., *Artemis*, p. 656, pl. 140, fig. 2, 1852. Magdalena Bay, Lower California, south to Paita, Peru.

Genus TIVELA Link.

TIVELA BYRONENSIS Gray.

1838. *Trigona byronensis* GRAY, Analyst, vol. 8, p. 302–9, no. 24. Scammon Lagoon, Lower California, south to Guayaquil.

TIVELA HIANS Philippi.

1851. *Donax hians* Philippi, Zeitschr. f. Mal., vol. 8, p. 74.—Roemer, Mon. *Venus*, p. 9, pl. 3, fig. 3, 1869. Magdalena Bay, Lower California, south to Valparaiso, Chile.

TIVELA PLANULATA Broderip and Sowerby.

1829. *Cytherea planulata* Broderip and Sowerby, Zool. Journ., vol. 5, p. 48.—Sowerby, Thes. Con., *Cytherea,* pl. 127, fig. 13, 1851. Gulf of California south to Coquimbo, Chile.

Genus MACROCALLISTA Meek.

MACROCALLISTA AURANTIACA Sowerby.

1831. *Cytherea aurantiaca* Sowerby, Gen. Sh., vol. 33, fig. 6; Thes. Con., *Cytherea*, pl. 132, fig. 97 *bis*, 1853. Gulf of California to Guayaquil.

MACROCALLISTA PANNOSA Sowerby.

1835. *Cytherea pannosa* Sowerby, Proc. Zool. Soc., p 47; Thes. Con., *Cytherea*, pl. 138, figs. 140–142; pl. 163, figs. 202–203, 1851. Gulf of California south to Valparaiso, Chile.

MACROCALLISTA SQUALIDA Sowerby.

1835. *Cytherea squalida* Sowerby, Proc. Zool. Soc., p. 23; Thes. Con., *Cytherea*, p. 629, pl. 131, figs. 87–89, 1851. Cedros Island, Lower California, south to Peru.

Genus PITARIA Roemer.

PITARIA INCONSPICUA Sowerby.

1835. *Cytherea inconspicua* Sowerby, Proc. Zool. Soc., p. 47; Thes. Con., *Cytherea*, pl. 133, figs. 133–134, 1852. Paita, Peru, and south to Talcahuano, Chile.

PITARIA POLLICARIS Carpenter.

1864. *Callista pollicaris* Carpenter, Ann. Mag. Nat. Hist., vol. 13, p. 475.—Reeve, Con. Icon., *Dione* (*prora*), fig. 45. Gulf of California to Callao, Peru.

PITARIA TOMEANA Dall.

1902. Proc. U. S. Nat. Mus., vol. 26, p. 402, pl. 15, fig. 2. Gulf of Panama to Tomé, Chile, and the Galapagos Islands.

PITARIA (LAMELLICONCHA) CIRCINATA Born.

1780. *Venus circinata* Born, Test. Mus. Vind., p. 61, pl. 4, fig. 8.—Sowerby, Thes. Con., *Cytherea*, pl. 132, figs. 104–106, 1853. Gulf of California to Paita, Peru.

PITARIA (LAMELLICONCHA) CONCINNA Sowerby.

1835. *Cytherea concinna* Sowerby, Proc. Zool. Soc., p. 23; Thes. Con., *Cytherea*, pl. 132, figs. 99–100, 1851. Magdalena Bay, Lower California, to Paita, Peru.

PITARIA (LAMELLICONCHA) CUMINGI Orbigny.

1846. *Venus cumingi* Orbigny, Voy. Am. Mér., p. 563.—*Cytherea modesta* Sowerby, Thes. Con., *Cytherea*, pl. 136, fig. 184, 1851. Jipijapa, Ecuador.

PITARIA (HYSTEROCONCHA) LUPANARIA Lesson.

1830. *Cytherea lupanaria* LESSON, Voy. Coq., p. 430.—CHENU, Illustr. Con., *Cytherea*, pl. 9, fig. 9. Ballenas Lagoon, Lower California, to Paita, Peru.

PITARIA (HYSTEROCONCHA) MULTISPINOSA Sowerby.

1851. *Cytherea multispinosa* SOWERBY, Thes. Con., *Cytherea*, p. 632, pl. 132, fig. 112. Gulf of Panama, south to Paita, Peru.

Genus CYTHEREA Bolten.

CYTHEREA MULTICOSTATA Sowerby.

1835. *Venus multicostata* SOWERBY, Proc. Zool. Soc., p. 22; Thes. Con., *Venus*, pl. 152, fig. 10, 1853. Gulf of California to Panama and the Galapagos Islands.

CYTHEREA (VENTRICOLA) MACTRACEA Broderip.

1835. *Venus mactracea* BRODERIP, Proc. Zool. Soc., p. 44 (unfigured). Valparaiso, Chile.

Genus CYCLINELLA Dall.

CYCLINELLA KROYERI Philippi.

1848. *Venus kroyeri* PHILIPPI, Abb., vol. 3, p. 78, pl. 7, fig. 9. Gulf of California to Valparaiso, Chile.

CYCLINELLA SUBQUADRATA Hanley.

1845. *Artemis subquadrata* HANLEY, Proc. Zool. Soc., p. 11.—SOWERBY, Thes. Con., *Artemis*, pl. 161, fig. 22, 1852. Guaymas, Mexico, south to Guayaquil.

Genus CHIONE Megerle.

CHIONE ALVAREZII Orbigny.

1846. *Venus alvarezii* ORBIGNY, Voy. Am. Mér., p. 557, pl. 83, figs. 3, 4. Peru (Tschudi); Patagonia (Orbigny).

CHIONE ANTIQUA King.

1831. *Venus antiqua* KING, Zool. Journ., vol. 5, p. 336.—*V. discrepans* PHILIPPI, Abb., vol. 1, p. 174, pl. 3, fig. 2, 1844; not of SOWERBY, 1835. Callao, Peru, south to the Magellanic region.

CHIONE COMPTA Broderip.

1835. *Venus compta* BRODERIP, Proc. Zool. Soc., p. 43.—SOWERBY, Thes. Con., *Venus*, pl. 154, figs. 32–34, 1853. Gulf of California to Sechura Bay, Peru.

CHIONE CRENIFERA Sowerby.

1835. *Venus crenifera* SOWERBY, Proc. Zool. Soc., p. 43; Thes. Con., *Venus*, p. 156, figs. 73–74, 1853. Mazatlan, Mexico, to Paita, Peru; also Atlantic coast.

CHIONE ELLIPTICA Lamarck.

1818. *Venus elliptica* LAMARCK, An. s. Vert., vol. 5, p. 590, no. 20. Encycl. Méth, pl. 267, fig. 5 *a–b*. Talcahuano to Chiloë, Chile.

CHIONE GNIDIA Broderip and Sowerby.

1829. *Venus gnidia* BRODERIP and SOWERBY, Zool. Journ., vol. 4, p. 364.—SOWERBY, Thes. Con., *Venus*, pl. 154, fig. 25, 1853. Cedros Island, Lower California, to Paita, Peru.

CHIONE SPURCA Sowerby.

1835. *Venus spurca* SOWERBY, Proc. Zool. Soc., p. 23; Thes. Con., *Venus*, pl. 156, fig. 97 only, 1853. Valparaiso, Chile.

CHIONE SUBROSTRATA Lamarck.

1818. *Venus subrostrata* LAMARCK, An. s. Vert., vol. 5, p. 588; Encycl. Méth., pl. 267, fig. 7.—SOWERBY, Thes. Con., *Venus*, pl. 154, fig. 39, 1853. Mazatlan, Mexico, to Paita, Peru; also Atlantic coast.

CHIONE UNDATELLA Sowerby.

1835. *Venus undatella* SOWERBY, Proc. Zool. Soc., p. 22; Thes. Con., *Venus*, pl. 153, fig. 22, 1853. San Pedro, California, south to Paita, Peru, and the Galapagos Islands.

CHIONE (TIMOCLEA) ASPERRIMA Sowerby.

1835. *Venus asperrima* SOWERBY, Proc. Zool. Soc., p. 42; Thes. Con., *Venus*, pl. 155, figs. 57–58, 1853. Gulf of California to the Lobos Islands, Peru.

CHIONE (TIMOCLEA) COLUMBIENSIS Sowerby.

1835. *Venus columbiensis* SOWERBY, Proc. Zool. Soc., p. 21; Thes. Con., *Venus*, pl. 155, figs. 53–54, 1853. Gulf of California to Pacasmayo, Peru.

CHIONE (TIMOCLEA) TUMIDA Sowerby.

1852. *Tapes tumida* SOWERBY, Thes. Con., *Tapes*, p. 697, pl. 146, fig. 42 (not var. *tumida* Carpenter). Panama to Guayaquil.

CHIONE (LIROPHORA) DISCREPANS Sowerby.

1835. *Venus discrepans* SOWERBY, Proc. Zool. Soc., p. 22; Thes. Con., *Venus*, pl. 155, fig. 65, 1853. Not *V. discrepans* PHILIPPI, 1853. Islay, Peru.

CHIONE (LIROPHORA) MARIÆ Orbigny.

1846. *Venus mariæ* ORBIGNY, Voy. Am. Mér., p. 563.—SOWERBY, Thes. Con., *Venus*, pl. 157, fig. 113, 1853. Gulf of California to Guayaquil.

CHIONE (LIROPHORA) PERUVIANA Sowerby.

1835. *Venus peruviana* SOWERBY, Proc. Zool. Soc., p. 22; Thes. Con., *Venus*, pl. 155, fig. 66, 1853. Callao and south to the Chilean coast.

CHIONE (CLAUSINELLA) GAYI Hupé.

1854. *Venus gayi* HUPÉ, Hist. de Chile, Zoöl., Mol., vol. 8, p. 337, pl. 6, fig. 5. Valparaiso, south to Chiloë Island.

Genus ANOMALOCARDIA Schumacher.

ANOMALOCARDIA SUBIMBRICATA Sowerby.

1835. *Venus subimbricata* SOWERBY, Proc. Zool. Soc., p. 21; Thes. Con., *Venus*, pl. 154, figs. 35–37, 1853. Gulf of California, south to Paita, Peru.

ANOMALOCARDIA SUBRUGOSA Sowerby.

1834. *Venus subrugosa* SOWERBY, Gen., *Venus*, fig. 2; Thes. Con., *Venus*, pl. 155, fig. 63, 1853. Magdalena Bay, Lower California, to Valparaiso, Chile.

Genus MARCIA (Adams) Fischer.

MARCIA LENTICULARIS Sowerby.

1835. *Venus lenticularis* SOWERBY, Proc. Zool. Soc., p. 42; Thes. Con., *Venus*, pl. 161, fig. 194, 1853. Valparaiso and Coquimbo, Chile.

MARCIA RUFA Lamarck.

1818. *Cytherea rufa* LAMARCK, An. s. Vert., vol. 5, p. 570 (not of SOWERBY, 1853); Thes. Con., *Tapes*, pl. 150, fig. 123, 1852. Gulf of Panama and south to Concepcion, Chile.

Genus PAPHIA Bolten.

PAPHIA (PROTOTHACA) CINERACEA Hupé.

1854. *Venus cineracea* HUPÉ, Hist. de Chile, Zoöl., Mol., p. 334, pl. 6, fig. 2. Callao, Peru, to northern Chile.

PAPHIA (PROTOTHACA) GRATA Say.

1831. *Venus grata* SAY, Am. Con., pt. 3, pl. 26. Lower California, south to Antofagasta, Chile.

PAPHIA (PROTOTHACA) THACA Molina.

1782. *Chama thaca* MOLINA, Saggio Hist. de Chile, p. 178.—PHILIPPI, Abb., vol. 1, p. 127, pl. 2, fig. 1; pl. 3, fig. 3, 1844. Ancon, Peru, and south to the Chonos Archipelago, Chile.

Genus VENERUPIS Lamarck.

VENERUPIS OBLONGA Lamarck.

1834. *Petricola oblonga*, SOWERBY, Proc. Zool. Soc., p. 46; Thes. Con., *Venerupis*, p. 765, pl. 165, fig. 21, 1854. Gulf of Panama to Pacasmayo, Peru.

VENERUPIS FERNANDEZIANA Stempell.

1899. Fauna Chilensis, suppl. Bd. 4, fasc. 1, p. 237, pl. 12, figs. 22–23. Juan Fernandez Islands.

Family PETRICOLIDÆ.

Genus PETRICOLA Lamarck.

PETRICOLA CONCINNA Sowerby.

1834. Proc. Zool. Soc., p. 46; Thes. Con., *Petricola*, p. 773, pl. 166, fig. 3, 1854. Monte Cristi, Ecuador, to Arica, Chile.

PETRICOLA DENTICULATA Sowerby.

1834. Proc. Zool. Soc., p. 46; *P. dactylus* in Thes. Con., *Petricola*, p. 773, pl. 166, figs. 6, 7, 1854; not of SOWERBY, Gen. Sh. 1823. Gulf of California to Paita, Peru.

PETRICOLA DISCORS Sowerby.

1834. Proc. Zool. Soc., p. 46. (Unfigured.) Lambayeque, Peru.

PETRICOLA ELLIPTICA Sowerby.

1834. Proc. Zool. Soc., p. 46; Thes. Con., *Petricola*, p. 774, pl. 166, fig. 10, 1854. Paita, Peru, to Arica, Chile.

PETRICOLA ROBUSTA Sowerby.

1834. Proc. Zool. Soc., p. 47; Thes. Con., *Petricola*, p. 775, pl. 166, figs. 16, 17, 1854. Panama to Guayaquil.

PETRICOLA RUGOSA Sowerby.

1834. Proc. Zool. Soc., p. 47; Thes. Con., *Petricola*, p. 773, pl. 166, figs. 13–14, 1854. Lambayeque, Peru, to Chiloë Island, Chile.

Superfamily TELLINACEA.

Family TELLINIDÆ.

Genus TELLINA Linnæus.

TELLINA COLUMBIENSIS Hanley.

1844. Proc. Zool. Soc., p. 71; Thes. Con., *Tellina*, p. 307, pl. 65, fig. 246, 1846. Monte Cristi, Ecuador.

TELLINA CRYSTALLINA Wood.

1815. Gen. Con., p. 149; Index Test., pl. 3, fig. 10, 1825. Panama, Guayaquil; also West Indies.

TELLINA EBURNEA Hanley.

1844. Proc. Zool. Soc., p. 61; Thes. Con., *Tellina*, p. 241, pl. 58, fig. 91, 1846. Gulf of California, to Paita, Peru.

TELLINA HIBERNA Hanley.

1844. Proc. Zool. Soc., p. 148; Thes. Con., *Tellina*, p. 282, pl. 57, fig. 53, 1846. Panama to Guayaquil.

TELLINA INÆQUISTRIATA Donovan.

1802. Brit. Shells, vol. 4, pl. 123. Guayaquil.

TELLINA LYRA Hanley.

1844. Proc. Zool. Soc., p. 68; Thes. Con. *Tellina*, p. 271, pl. 62, fig. 187, 1846. Lower California to Tumbes, Peru.

TELLINA PRINCEPS Hanley.

1844. Proc. Zool. Soc., p. 62; Thes. Con., *Tellina*, p. 238, pl. 63, fig. 206, 1846. Peru.

TELLINA PRORA Hanley.

1844. Proc. Zool. Soc., p. 61; Thes. Con., *Tellina*, p. 243, pl. 60, fig. 152, 1846. Bay of Guayaquil.

TELLINA RUBESCENS Hanley.

1844. Proc. Zool. Soc., p. 60; Thes. Con., *Tellina*, p. 242, pl. 60, fig. 153, 1846. Gulf of Panama to Tumbes, Peru.

Genus TELLIDORA Mörch.

TELLIDORA BURNETI Broderip and Sowerby.

1829. *Tellina burneti* Broderip and Sowerby, Zool. Journ., vol. 4, p. 362, pl. 9, fig. 2. Mazatlan, Mexico, to Salango, Ecuador.

Genus METIS H. and A. Adams.

METIS DOMBEYI Hanley.

1844. *Tellina dombeyi* HANLEY, Proc. Zool. Soc., p. 144 and index; Thes. Con., *Tellina*, p. 323, pl. 62, fig. 182, 1846. Gulf of Panama to Peru.

METIS EXCAVATA Sowerby.

1867. *Tellina excavata* SOWERBY, Con. Icon., *Tellina*, pl. 26, fig. 138. Gulf of California, to Paita, Peru, and the Galapagos Islands.

Genus MACOMA Leach.

MACOMA GRANDIS Hanley.

1844. Proc. Zool. Soc., p. 181; Thes. Con., *Tellina*, p. 327, pl. 65, fig. 247, 1846. Tumbes, Peru.

MACOMA HUPEANA Dall.

1908. Dall, Albatross Rep., p. 421.—*Tellina inornata* HUPÉ, Hist. de Chile, vol. 8, Zool., Mol., p. 356, pl. 8, fig. 2, 1854; not of Hanley, 1844. Southern Chile.

MACOMA INORNATA Hanley.

1844. *Tellina inornata* HANLEY, Proc. Zool. Soc., p. 144; Thes. Con., *Tellina*, p. 315, pl. 59, fig. 123, 1846. Gulf of California, to Concepcion, Chile.

MACOMA PUMILA Hanley.

1844. *Tellina pumila* HANLEY, Proc. Zool. Soc., p. 69; Thes. Con., *Tellina*, p. 279, pl. 57, fig. 41, 1846. Valparaiso, Chile.

MACOMA UNDULATA Hanley.

1844. *Tellina undulata* HANLEY, Proc. Zool. Soc., p. 72; Thes. Con., *Tellina*, p. 310, pl. 59, fig. 107, 1846. Gulf of California, and south to Santa Elena, Ecuador.

Family SEMELIDÆ.

Genus SEMELE Schumacher.

SEMELE CORRUGATA Sowerby.

1832. *Amphidesma corrugata* SOWERBY, Proc. Zool. Soc., p. 200; Con. Ill., *Amphidesma*, fig. 18, 1833. Gulf of Panama, to Valparaiso, Chile.

SEMELE ELLIPTICA Sowerby.

1830. Spec. Con., *Amphidesma*, fig. 17.—*Amphidesma ellipticum* SOWERBY, Proc. Zool. Soc., p. 200, 1832 (not of KOCH, 1837). Monte Cristi, Ecuador.

SEMELE FORMOSA Sowerby.

1832. *Amphidesma formosum* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 8, 1833. Santa Elena, Bay of Guayaquil, Ecuador.

SEMELE LÆVIS Sowerby.

1832. *Amphidesma læve* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 6, 1833. Jipijapa, Ecuador.

SEMELE LENTICULARIS Sowerby.

1832. *Amphidesma lenticularis* SOWERBY, Proc. Zool. Soc., p. 200; Con. Ill., *Amphidesma*, fig. 9, 1833. Santa Elena, Guayaquil.

SEMELE PALLIDA Sowerby.

1832. *Amphidesma pallidum* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 8, 1833. Salango, Ecuador.

SEMELE PULCHRA Sowerby.

1832. *Amphidesma pulchrum* SOWERBY, Proc. Zool. Soc., p. 57; Con. Ill., *Amphidesma*, fig. 2, 1833. Bay of Caraques, Ecuador.

SEMELE PURPURASCENS Sowerby.

1832. *Amphidesma purpurascens* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 5, 1833. Santa Elena, Bay of Guayaquil.

SEMELE ROSEA Sowerby.

1832. *Amphidesma roseum* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 1, 1833. Tumbes, Peru.

SEMELE RUPIUM Sowerby.

1832. *Amphidesma rupium* SOWERBY, Proc. Zool. Soc., p. 199; Con. Ill., *Amphidesma*, fig. 11, 1833. California, south to Guayaquil and the Galapagos Islands.

SEMELE SOLIDA Gray.

1828. *Amphidesma solidum* GRAY, Spicil. Zool., pl. 6, fig. 6.—HUPÉ, Hist. de Chile, Mol., pl. 7, fig. 1. Callao, Peru, south to the Chonos Archipelago.

SEMELE VARIEGATA Lamarck.

1818. *Amphidesma variegatum* LAMARCK, An. s. Vert., vol. 5, p. 490; Encycl. Méth., pl. 291, fig. 3.—HUPÉ, Hist. de Chile, vol. 8, Mol., p. 359, pl. 7, fig. 2, 1854. Peru and Chile.

Genus CUMINGIA Sowerby.

CUMINGIA LAMELLOSA Sowerby.

1833. Proc. Zool. Soc., p. 34; Con. Icon., *Cumingia*, pl. 1, fig. 5, 1873. Gulf of Panama to Paita, Peru, and to northern Chile.

CUMINGIA MUTICA Sowerby.

1833. Proc. Zool. Soc., p. 34; Con. Icon., *Cumingia*, pl. 1, fig. 3, 1873. Bay of Guayaquil to Paita, Peru, and south to Concepcion, Chile.

Family PSAMMOBIIDÆ.

Genus PSAMMOBIA Lamarck.

PSAMMOBIA LATA Deshayes.

1854. Proc. Zool. Soc., p. 318.—REEVE, Con. Icon., *Psammobia*, pl. 1, fig. 7, 1857. Bay of Guayaquil.

PSAMMOBIA SOLIDA Gray.

1828. *Solecurtus solidus* GRAY, Spicil. Zool., pl. 3, fig. 12.—*Psammobia solida* PHILIPPI. Abb., vol. 1, *Psammobia*, pl. 1, fig. 1, 1844. Callao, Peru, to the Chonos Archipelago.

Genus SANGUINOLARIA Lamarck.

SANGUINOLARIA HANLEYI Bertin.

1878. *Tellina hanleyi* BERTIN, Revis. Tell., p. 268.—*Tellina rufescens* HANLEY, Thes. Con., *Tellina*, p. 307, pl. 53, fig. 213, 1846; not of CHEMNITZ. Lower California, south to Panama and to Tumbes, Peru.

Genus TAGELUS Gray.

TAGELUS (MESOPLEURA) DOMBEYI Lamarck.

1818. *Solen dombeii* LAMARCK, An. s. Vert., vol. 5, p. 454; Encycl. Méth., pl. 224, fig. 1.—HUPÉ, Hist. de Chile, vol. 8, Mol., p. 366, pl. 7, fig. 5, 1854. Tumbes, Peru, south to Valdivia, Chile.

Family DONACIDÆ.

Genus DONAX Linnæus.

DONAX ARICANA Dall, new name.

1909. *D. radiatus*, VALENCIENNES, Humb. Voy.,vol. 2, p. 221, pl. 50, figs. 3, 4, 1833.—BERTIN, Revis. Donacidées, p. 95, pl. 3, fig. 1*a–b*, 1879; not of GMELIN, Syst. Nat., p. 3266, 1791. Paita, Peru, to Arica, Chile.

DONAX ASPERA Hanley.

1845. *Donax asper* HANLEY, Proc. Zool. Soc., p. 14.—SOWERBY, Thes. Con., *Donax*, p. 307, pl. 1, fig. 24, 1862. Gulf of Panama to Tumbes, Peru.

DONAX GRACILIS Hanley.

1845. Proc. Zool. Soc., p. 15.—SOWERBY, Thes. Con., *Donax*, p. 314, pl. 3, figs. 76–79, 1862. California, south to Guayaquil.

DONAX OBESA Orbigny.

1846. Voy. Am. Mér., p. 541, pl. 81, figs. 28–30; not *D. obesus* GOULD, 1851. Gulf of Panama to Paita, Peru.

DONAX OBESULA Deshayes.

1854. Proc. Zool. Soc., p. 352.—REEVE, Con. Icon., *Donax*, pl. 5, fig. 30, 1858. Peru (Deshayes).

DONAX PAYTENSIS Orbigny.

1846. Voy. Am. Mér., p. 541 (unfigured). Panama to Paita, Peru, and Arica, Chile.

DONAX PETALINA Deshayes.

1854. Proc. Zool. Soc., p. 350.—SOWERBY, Thes. Con., *Donax*, p. 315, pl. 3, fig. 86, 1866. Chile.

Genus IPHIGENIA Schumacher.

IPHIGENIA ALTIOR Sowerby.

1832. Proc. Zool. Soc., p. 196 (as *Capsa*).—Roemer, Mon. Donacidæ, p. 114, pl. 21, figs. 1–4, 1869. Gulf of California to Tumbes, Peru.

Superfamily SOLENACEA.

Family SOLENIDÆ.

Genus SOLEN Linnæus.

SOLEN GAUDICHAUDI Chenu.

1843. Illustr. Con., *Solen*, pl. 2, fig. 7. Valparaiso and Coquimbo, Chile.

SOLEN MACHA Molina.

1782. Hist. Nat. de Chile, p. 178.—Hupé, Hist. de Chile, vol. 8, Mol., p. 369, pl. 8, fig. 6, 1854. Valparaiso to Chiloë, and Puerto Montt, Chile.

Superfamily MACTRACEA.

Family MACTRIDÆ.

Genus MACTRA (Linnæus) Lamarck.

MACTRA (MACTRODERMA) VELATA Philippi.

1848. *M. velata* Philippi, Zeitschr. f. Mal., p. 153, no. 7; Abb., vol. 3, p. 137, pl. 3, fig. 5, 1850. Gulf of California and south to Paita, Peru, and the Galapagos Islands.

Genus MULINIA Gray.

MULINIA BICOLOR Gray.

1838. Loudon's Mag. N. Hist., new ser., vol. 1, p. 375.—Hanley, Rec. Biv. Sh., pl. 10, fig. 31, 1842.—Philippi, Ann. Mus. Nac. de Chile, Zool., vol. 4, p. 11, pl. 3, figs. 9, 10, 1893. Copiapó to Valparaiso.

MULINIA BYRONENSIS Gray.

1838. Loudon's Mag. N. Hist., new ser., vol. 1, p. 376, fig. 33; Zool. Beechey's Voy., p. 154, pl. 44, fig. 11, 1839. Salaverri, Peru, and south to Talcahuano, Chile.

MULINIA EDULIS King.

1831. *Mactra edulis* King, Zool. Journ., vol. 5, p. 335.—*Mactra byronensis* Hupé, Hist. de Chile, vol. 8, Mol., pl. 8, fig. 1, 1854 (not of Gray, 1838). Callao, Peru, and south to Magellan straits.

MULINIA PALLIDA Broderip and Sowerby.

1829. *Mactra pallida* Broderip and Sowerby, Zool. Journ., vol. 4, p. 360.—Reeve, Con. Icon., *Mactra*, pl. 9, fig. 34, 1854. Gulf of California and south to Panama and Manta, Ecuador.

Family MESODESMATIDÆ.

Genus MESODESMA Deshayes.

MESODESMA DONACIUM Lamarck.

1818. *Mactra donacia* LAMARCK, An. s. Vert., vol. 5, p. 479.—CHENU, Man., vol. 2, p. 79, fig. 341, 1862. Sechura Bay, Peru, south to Valparaiso, Chile.

Superfamily MYACEA.

Family CORBULIDÆ.

Genus CORBULA Bruguière.

CORBULA BICARINATA Sowerby.

1833. Proc. Zool. Soc., p. 35.—REEVE, Conch. Icon., *Corbula*, pl. 3, fig. 23, 1844. Panama to Guayaquil.

CORBULA BIRADIATA Sowerby.

1833. Proc. Zool. Soc., p. 35.—REEVE, Con. Icon., *Corbula*, pl. 1, fig. 3, 1844. Gulf of Panama to Guayaquil.

CORBULA NASUTA Sowerby.

1833. Proc. Zool. Soc., p. 35.—REEVE, Con. Icon., *Corbula*, pl. 1, fig. 1, 1844 (not of Conrad). Gulf of Panama to Jipijapa, Ecuador.

CORBULA OVULATA Sowerby.

1833. Proc. Zool. Soc., p. 35.—REEVE, Con. Icon., *Corbula*, pl. 1, fig. 7, 1844. Gulf of Panama to Guayaquil.

Family SAXICAVIDÆ.

Genus SAXICAVA F. de Bellevue.

SAXICAVA PURPURASCENS Sowerby.

1834. Proc. Zool. Soc., p. 88; Thes. Con., *Saxicava*, p. 133, pl. 471, fig. 7, 1884. Bay of Guayaquil.

SAXICAVA SOLIDA Sowerby.

1834. Proc. Zool. Soc., p. 88; Thes. Con., *Saxicava*, p. 133, pl. 471, fig. 12, 1884. Bay of Guayaquil and south to Punta Arenas, Magellan straits.

Family GASTROCHÆNIDÆ.

Genus GASTROCHÆNA Spengler.

GASTROCHÆNA DENTICULATA Deshayes.

1854. Proc. Zool. Soc., p. 327; Thes. Con., *Gastrochæna*, p. 129, pl. 470, fig. 7, 1884. Ecuador coast.

GASTROCHÆNA OVATA Sowerby.

1834. Proc. Zool. Soc., p. 21; Thes. Con., *Gastrochæna*, p. 128, pl. 470, fig. 9, 1884. Panama to La Plata Island, Ecuador, Also Atlantic.

GASTROCHÆNA RUGULOSA Sowerby.

1834. Proc. Zool. Soc., p. 22; Thes. Con., *Gastrochæna*, p. 128, pl. 470, fig. 25, 1884. Galapagos Islands.

Genus SPENGLERIA Tryon.

SPENGLERIA TRUNCATA Sowerby.

1834. Proc. Zool. Soc., p. 21; Thes. Con., *Gastrochæna*, p. 130, pl. 470, fig. 13, 1884. Panama and southward.

Superfamily ADESMACEA.

Family PHOLADIDÆ.

Genus PHOLAS Linnæus.

PHOLAS CHILOËNSIS Molina.

1782. Saggio stor. nat. de Chile, pp. 104 (note), p. 348.—Philippi, Abb., vol. 3, p. 134, pl. 1, figs. 4, 5, 1849.—Hupé, Hist. de Chile, vol. 8, Mol., p. 381, pl. 6, fig. 3, 1854. Gulf of Panama to Peru, and south to Chiloë Island.

Genus BARNEA Leach.

BARNEA CRUCIGERA Sowerby.

1834. *Pholas cruciger* Sowerby, Proc. Zool. Soc., p. 69; Thes. Con., *Pholas*, p. 489, pl. 104, figs. 24–26, 1849. Gulf of Panama to Guayaquil. Also Atlantic.

BARNEA SUBTRUNCATA Sowerby.

1834. *Pholas subtruncatus* Sowerby, Proc. Zool. Soc., p. 69.—*P. lamellosa* Orbigny, Voy. Am. Mér., p. 498, pl. 77, figs. 20, 21, 1846. Guayaquil and southward to Paita, Peru, Magellan strait, and the Atlantic coast of southern Argentina.

BARNEA PACIFICA Stearns.

1871. *Pholas pacifica* Stearns, Proc. Cal. Acad. Sci., vol. 5, p. 81, pl. 1, figs. 6, *a–c*. San Francisco Bay, Cal., and south to Paita, Peru, and the coast of Chile.

Genus PHOLADIDEA Turton.

PHOLADIDEA (NETTASTOMELLA) DARWINI Sowerby.

1849. Thes. Con., *Pholas*, p. 490, pl. 107, figs. 76–77. Esquimault, British Columbia, and south to Chiloë Island, Chile.

PHOLADIDEA (HATASIA) MELANURA Sowerby.

1834. *Pholas melanura* Sowerby, Proc. Zool. Soc., p. 70; Thes. Con., *Pholas*, p. 499, pl. 107, figs. 78–79, 1849. Gulf of California and south to Ecuador.

PHOLADIDEA PENITA Conrad.

1837. *Pholas penita* Conrad, Journ. Acad. Nat. Sci. Phila., vol. 7, p. 237, pl. 18, fig. 7. California, south to Guayaquil.

PHOLADIDEA QUADRA Sowerby.

1834. *Pholas quadra* SOWERBY, Proc. Zool. Soc., p. 71; Thes. Con., *Pholas*, p. 499, pl. 106, figs. 62, 63, 1849. Monte Cristi, Ecuador.

PHOLADIDEA TRIDENS Gray.

1851. *Pholas tridens* GRAY, Ann. Mag. Nat. Hist., 2nd ser., vol. 8, p. 385.—SOWERBY, Thes. Con., *Pholas*, p. 498, pl. 106, figs. 60, 61, 1849. Ecuador coast.

PHOLADIDEA TUBIFERA Sowerby.

1834. *Pholas tubifera* SOWERBY, Proc. Zool. Soc., p. 71; Thes. Con., *Pholas*, p. 499, pl. 106, figs. 64, 65, 1849. Gulf of Panama to Paita, Peru.

Genus JOUANNETIA Desmoulins.

JOUANNETIA PECTINATA Conrad.

1849. *Pholadopsis pectinata* CONRAD, Proc. Acad. Nat. Sci. Phila. for 1849 (August) p. 156; Journ. Acad. Nat. Sci. Phila., 2d ser., vol. 1, p. 279, pl. 39, fig. 3, 1850. Guayaquil and Gulf of Panama.

Genus MARTESIA Leach.

MARTESIA CURTA Sowerby.

1834. *Pholas curta* SOWERBY, Proc. Zool. Soc., p. 71; Thes. Con., *Pholas*, p. 494, pl. 104, figs. 33, 34; pl. 108, fig. 105, 1849. Gulf of Panama to Tumbes, Peru. Also Atlantic and Antilles.

Genus XYLOTOMEA Dall.

XYLOTOMEA GLOBOSA Sowerby.

1835. *Xylophaga globosa* SOWERBY, Proc. Zool. Soc., p. 110; Thes. Con., *Pholas*, p. 503, pl. 108, figs. 101–102, 1849. Panama south to Valparaiso and Juan Fernandez Island.

Family TEREDINIDÆ.

Genus TEREDO Linnæus.

? TEREDO NAVALIS Linnæus.

1854. *Teredo navalis* HUPÉ, Hist. de Chile, vol. 8, Mol. p. 384, 1854 (? not of Linnæus). Valparaiso.

Genus XYLOTRYA Leach.

XYLOTRYA DRYAS Dall.

1909. Proc. U. S. Nat. Mus., Vol. 37, p. 162, pl. 25, figs. 2, 3, 5, 6, 7. Tumbes, Peru, at Estero del Palo Santo, boring in the heart of living mangroves.

XYLOTRYA MARTENSI Stempell.

1899. *Teredo* (*X.*) *martensi* STEMPELL, Fauna Chilensis, Suppl. Bd. 4, fasc. 1, p. 240, pl. 12, figs. 24–27. Punta Arenas, Chile.

XYLOTRYA SAULII Wright.

1884. *Teredo saulii* (WRIGHT Ms.) SOWERBY, Thes. Con., *Teredo*, p. 123, pl. 469, fig. 18. Callao.

SUBKINGDOM MOLLUSCOIDEA.

Class BRACHIOPODA.

Order ATREMATA.

Superfamily LINGULACEA.

Family LINGULIDÆ.

Genus GLOTTIDIA Dall.

GLOTTIDIA AUDEBARDI Broderip.

1833. *Lingula audebardi* BRODERIP, Proc. Zool. Soc., p. 125; Trans. Zool. Soc. Lond., vol. 1, p. 143, pl. 23, fig. 14, 1834. Gulf of California, south to Guayaquil.

GLOTTIDIA SEMEN Broderip.

1833. *Lingula semen* BRODERIP, Proc. Zool. Soc., p. 125. Trans. Zool. Soc. Lond., vol. 1, p. 144, pl. 23, fig. 17, 1834. Bay of Guayaquil.

Order NEOTREMATA.

Superfamily DISCINACEA.

Family DISCINIDÆ.

Genus DISCINISCA Dall.

DISCINISCA CUMINGI Broderip.

1833. *Orbicula cumingi* BRODERIP, Proc. Zool. Soc., p. 124; Trans. Zool. Soc., vol. 1, p. 143, pl. 23, fig. 1, 1834. Gulf of California, to Paita, Peru.

DISCINISCA LÆVIS Sowerby.

1822. *Orbicula lævis* SOWERBY, Trans. Linn. Soc., vol. 13, pt. 2, p. 468, pl. 26, figs. 1*a–d*.—REEVE, Con. Icon., *Orbicula*, pl. 1, fig. 4, 1862. Guayaquil to Callao, Peru.

DISCINISCA LAMELLOSA Broderip.

1833. *Orbicula lamellosa* BRODERIP, Proc. Zool. Soc., p. 124; Trans. Zool. Soc. Lond., vol. 1, p. 142, pl. 23, fig. 2, 1834. Guayaquil and southward throughout the Peruvian Province.

Order TELOTREMATA.

Superfamily TEREBRATULACEA.

Family TEREBRATULIDÆ.

Genus LIOTHYRINA Oehlert.

LIOTHYRINA UVA Broderip.

1834. *Terebratula uva* BRODERIP, Trans. Zool. Soc. Lond., p. 142, pl. 23, fig. 2. Coast of Guatemala, and south to Peru and the Galapagos Islands.

Genus TEREBRATELLA Orbigny.

TEREBRATELLA DORSATA Gmelin.

1791. *Anomia dorsata* GMELIN, Syst. Nat., vol. 8, p. 3348.—*T. chilensis* BRODERIP, Trans. Zool. Soc. Lond., vol. 1, p. 141, pl. 22, fig. 1, 1834. Valparaiso, Chile, to Magellan Straits.

Genus MAGELLANIA Bayle.

MAGELLANIA VENOSA Solander.

1788. *Anomia venosa* SOLANDER, Dixon's Voy., p. 355, pl. 11.—DAVIDSON, Rec. Brach., Trans. Linn. Soc., 2nd ser., vol. 4, p. 49, pl. 8, figs. 1–5, 1886. Southern Chile, and the Magellanic region.

SYNONYMOUS NAMES.

The student of the preceding list, familiar with the names contained in Orbigny's "Voyage," will miss a number of names which he would naturally have expected to find. It would have broken up the unity and conciseness of the faunal list to have it include any synonymy not necessary to the references given, i. e., the name used at the time of the description of the species and that used in connection with one or more good figures of the species. In order that the student may be able to identify synonyms with the name adopted in the list, an alphabetical summary of the chief synonyms is here given. The summary does not claim to contain all synonyms, for the work of bringing them together would have amounted to a monograph of the Peruvian provincial mollusk fauna, for which at present time could not be spared. Nor is the accuracy of this summary more exact than it could be made during the search of the literature and the comparison of the species in the collection of the U. S. National Museum. A thorough and complete study of the fauna would doubtless reveal the necessity for a certain number of changes. The present summary may be regarded as a step toward a future monograph. I have profited much in preparing it by the data given in Tryon's Manual, especially the volumes due to Dr. H. A. Pilsbry, without invariably accepting the decisions in that work. The works cited in the bibliography preceding the Faunal List have been carefully examined, together with many others which will be found cited in the List, and it is believed that nearly all the conspicuous synonyms will be found in the following summary. In adopting generic names the International Code of Rules for Zoological Nomenclature has been rigidly adhered to, and, while it would be too much to expect that absolute accuracy has been attained, the author has done his best in that direction. Eight hundred and sixty-nine species are cited in the Faunal List, and for the whole about 650 synonyms have been noted. This would indicate that the nomenclature is in a tolerably satisfactory state.

SUMMARY OF THE CHIEF SYNONYMS.

Acmaea cymbula Hupé=*Scurria scurra* Lesson.
Acmaea nisoria Philippi=*A. viridula* Lamarck.
Acmaea plana Philippi, not Reeve=*A. viridula* Lamarck.
Acmaea pretrei Orbigny=*A. viridula* Lamarck.
Acmaea punctatissima Philippi=*Scurria parasitica* Orbigny.
Acmaea spectrum Wimmer=*A. variabilis* Sowerby.
Aeolis auctorum, cf. *Aeolidia* Cuvier.
Amalthea Schumacher, not *Amaltheus* Montfort=*Hipponix* Defrance.
Amphidesma croceum Gould=*Semele solida* Gray.
Amphidesma orbiculare Hupé=*Semele solida* Gray.
Amyxa Troschel=*Prisogaster* Mörch.
Anomia electus Gray=*A. peruviana* Orbigny.

Anomia hamillus Gray=*A. peruviana* Orbigny.
Anomia lampe Gray=*A. peruviana* Orbigny.
Anomia larbas Gray=*A. peruviana* Orbigny.
Aplysia Linnæus, 1767=*Tethys* Linnæus, 1758.
Arca brasiliensis Reeve, not Lamarck=*A. cardiiformis* Sowerby.
Arca hemicardium Koch=*A. reversa* Sowerby.
Arca inaequivalvis Reeve, not Bruguière=*A. cardiiformis* Sowerby.
Arca sowerbyi Orbigny=*A. biangulata* Sowerby, not *A. biangula* Lamarck.
Artemis macilenta Reeve=*Cyclinella kroyeri* Philippi.
Artemis tenuis Sowerby, 1852, not Recluz=*Cyclinella subquadrata* Hanley.
Arthemis saccata Gould=*Cyclinella subquadrata* Hanley.
Astralium, see *Astræa*.
Auricula nigra Philippi=*Marinula marinella* Küster.
Avicula Lamarck, see *Pteria* Scopoli.
Barnea truncata Tryon, not Say=*B. pacifica* Stearns.
Buccinum bolivianum Souleyet, see *Cantharus bolivianus*.
Buccinum cochlidium Kiener, cf. *B. paytensis* Kiener.
Buccinum cribrarium Lamarck, see *Nitidella ocellata*, Gmelin.
Buccinum fusiforme Souleyet=*Solenosteira fusiformis* Blainville.
Buccinum insignis Reeve, 1846=*Cantharus elegans* Gray.
Buccinum pagodus Reeve=*Solenosteira fusiformis* Blainville.
Buccinum parvulum Dunker=*Nitidella ocellata* Carpenter.
Buccinum pristis Deshayes, 1844=*Northia northiæ* Gray.
Buccinum serratum Dufresne, 1834, not of Brocchi, 1814, see *Northia*.
Bulla Linnæus, 1758, p. 725, not p. 425=*Bullaria* Rafinesque.
Bulla ampulla Troschel, not Linnæus=*B. gouldiana?*
Bulla nebulosa Gould, 1852, not Schröter, 1804=*B. gouldiana?*
Bulla panamensis Philippi, 1848=*B. aspersa?*
Bulla punctata A. Adams, 1850=*B. punctulata* Adams.
Bulla striata Orbigny, 1837=*B. punctulata?*
Cadulus panamensis Pilsbry and Sharp, cf. *C. perpusillus* Sowerby.
Callista longispina Mörch=*Pitaria multispinosa*.
Calyptræa, see also *Crucibulum* and *Crepidula*.
Calyptræa amygdala Valenciennes=*Crepidula onyx* Sowerby.
Calyptræa araucana Lesson=*Trochita trochiformis* Gmelin.
Calyptræa cornea Broderip=*Cheilea equestris* Linnæus.
Calyptræa dilatata Sowerby, 1824=*Trochita trochiformis* Gmelin.
Calyptræa echinus Broderip=*Crepidula aculeata* Gmelin.
Calyptræa foliacea Broderip=*Crepidula dilatata* Sowerby.
Calyptræa hystrix Broderip=*Crepidula aculeata* Gmelin.
Calyptræa rudis Broderip=*Cheilea equestris* Linnæus.
Calyptræa rugosa Deshayes, not Lesson=*Crucibulum quiriquinæ* Lesson.
Calyptræa sordida Broderip=*Trochita trochiformis* Gmelin.
Calyptræa strigata Broderip=*Crepidula dilatata* Sowerby.
Calyptræa tubifera Lesson=*Crucibulum spinosum* Sowerby.
Calyptræa umbrella Deshayes=*Cheilea equestris* Linnæus.
Calyptræa umbrella Deshayes (part)=*Crucibulum imbricatum* Sowerby.
Calyptræa unguis Broderip=*Trochita, testa juvenis*.
Calyptræa varia Broderip=*Cheilea equestris* Linnæus.
Cancellaria ovata Sowerby, 1832=*C. obesa* Sowerby.
Cancellaria unifasciata Orbigny, cf. *C. uniplicata* Sowerby.
Cardita arcella Valenciennes=*C. radiata* Sowerby.
Cardita flammea Michaud=*Venericardia crassicostata* Sowerby.
Cardita tricolor Sowerby, 1832=*C. laticostata* Sowerby var.

Cardita tumida Broderip=*Venericardia crassicostata* Sowerby.
Cardita turgida Valenciennes, 1846=*C. laticostata* Sowerby.
Cardita varia Broderip=*Venericardia crassicostata* Sowerby.
Cardium aspersum Sowerby, cf. *C. spinosum* Meuschen.
Cardium laticostatum Sowerby=*C. procerum* Sowerby.
Cardium panamense Sowerby=*C. procerum* Sowerby.
Cardium planicostatum Sowerby, 1833, not of Sedgwick and Murchison, 1829=*C. magnificum* Deshayes.
Cardium rastrum Reeve=*C. senticosum* Sowerby.
Cardium rotundatum Carpenter=*C. procerum* junior.
Cardium subelongatum Valenciennes, 1846, not of Sowerby, 1840.
Cassis lactea Kiener=*Phalium abbreviatum* Lamarck.
Cerithidea fortiuscula Bayle=*C. montagnei* Orbigny.
Cerithidea valida C. B. Adams=*C. montagnei* Orbigny.
Cerithidea varicosa Sowerby, not Defrance=*C. montagnei* Orbigny.
Cerithium galapaginis Adams=*C. interruptum* Menke.
Cerithium humboldtii Valenciennes=*C. pacificum* Sowerby.
Cerithium irroratum Gould=*C. stercusmuscarum* Valenciennes.
Cerithium nebulosum Sowerby, not Philippi=*C. maculosum.*
Chætopleura hahni Rochebrune=*Chiton fremblyi* Broderip.
Chama thaca Molina, see *Paphia thaca* Dall.
Chione antiqua King, cf. *Chione alvarezii* Orbigny.
Chione biradiata Gray=*Macrocallista squalida* Sowerby.
Chione tumens Verrill=*Anomalocardia subimbricata* Sowerby.
Chionella, see *Paradione.*
Chiton aculeatus Sowerby, in Beechey's Voyage, not of Linnæus.
Chiton bicostatus Orbigny=*C. pulchellus* Gray.
Chiton coquimbensis Frembly=*Enoplochiton niger* Barnes.
Chiton glaber Clessin, cf. *Tonicia elegans* Frembly.
Chiton magnificus Deshayes=*C. latus* Sowerby.
Chiton olivaceus Frembly=*C. latus* Sowerby.
Chiton patulus Sowerby=*C. stokesii* Broderip.
Chiton scabriculus Sowerby=*Chætopleura lurida* Sowerby.
Chiton spiniferus Frembly=*C. echinatus* Barnes.
Chiton striatus Barnes, 1823, not of Lamarck, 1819, nor of Fischer, 1809.
Chiton tuberculiferus Sowerby=*C. echinatus* Barnes.
Chlorostoma, cf. *Tegula.*
Chlorostoma tropidophorum Adams=*Tegula luctuosa* Orbigny.
Columbella argus Orbigny=*Nitidella ocellata* Gmelin.
Columbella castanea Gould=*C. unicolor* Sowerby.
Columbella costata Duclos=*Anachis fluctuata* Sowerby.
Columbella ebenum Gould, cf. *C. unifasciata* Sowerby.
Columbella fusiformis Hinds=*Strombina lanceolata.*
Columbella gibbosula Broderip=*Strombina gibberula* Sowerby.
Columbella meleagris Duclos=*C. fuscata* Sowerby.
Columbella nodalina Duclos=*C. fuscata* Sowerby.
Columbella paytalida Duclos=*C. paytensis* Lesson.
Columbella recurva Sowerby, cf. *Strombina lanceolata.*
Columbella sordida Orbigny=*C. unicolor* Sowerby.
Columbella spurca Sowerby, 1832=*C. paytensis* Lesson.
Columbella suturalis Gray=*Anachis fluctuata* Sowerby.
Columbella tessellata C. B. Adams, not of Gaskoin=*C. guatemalensis* Reeve.
Columbella triomphalia Duclos=*Cantharus distortus.*
Columbella unizonalis Gray=*C. unifasciata* Sowerby.

Columbella venilia Duclos=*C. labiosa* Sowerby.
Concholepas imbricatus Küster=*C. concholepas* Bruguière.
Concholepas oblongus Reeve=*C. concholepas*, var.
Concholepas peruvianus Lamarck=*C. concholepas* Bruguière.
Conorulus columbiensis Anton, 1839=*M. luteus* Quoy.
Conus diadema Sowerby=*C. brunneus* Mawe.
Conus incurvus Sowerby, 1841=*C. recurvus* Broderip.
Conus interruptus Broderip and Sowerby, 1829, not of Mawe, 1828.
Conus reticulatus Sowerby, 1841=*C. lucidus* Mawe.
Crepidula adolphei Lesson=*C. dilatata* Sowerby.
Crepidula arcuata Orbigny=*C. dilatata* Sowerby.
Crepidula arenata Broderip=*C. onyx* Sowerby.
Crepidula cerithicola C. B. Adams=*C. onyx* Sowerby.
Crepidula costata Menke=*C. aculeata* Menke.
Crepidula fimbriata Reeve=*C. squama* Broderip.
Crepidula hepatica C. B. Adams=*C. onyx* Sowerby.
Crepidula hepatica Menke=*C. incurva* Broderip.
Crepidula lessoni Broderip=*C. squama* Broderip.
Crepidula nivea C. B. Adams=*C. squama* Broderip.
Crepidula pallida Broderip=*C. dilatata* Sowerby.
Crepidula patula Deshayes=*C. dilatata* Sowerby.
Crepidula peruviana Lamarck=*C. dilatata* Sowerby.
Crepidula plana Say=*C. crepidula* Linnæus.
Crepidula striolata Menke=*C. squama* Broderip.
Crepidula unguiculus Broderip=*C. squama* Broderip.
Crepidula unguiformis Lamarck=*C. crepidula* Linnæus.
Crucibulum auritum Reeve=*C. quiriquinæ* Lesson.
Crucibulum cinereum Gray=*C. tubiferum* Lesson.
Crucibulum dentatum Carpenter=*C. imbricatum* Sowerby.
Crucibulum ferrugineum Reeve=*C. quiriquinæ* Lesson.
Crucibulum hispidum Broderip=*C. tubiferum* Lamarck.
Crucibulum lignarium Broderip=*C. quiriquinæ* Lesson.
Crucibulum maculatum Broderip, not Quoy=*C. quiriquinæ* Lesson.
Crucibulum pectinatum Carpenter=*C. imbricatum* Sowerby.
Crucibulum peziza Gray=*C. tubiferum* Lesson.
Crucibulum rude Broderip=*C. imbricatum* Sowerby.
Crucibulum rugosum Lesson=*C. imbricatum* Sowerby.
Crucibulum serratum Broderip, cf. *C. imbricatum* Sowerby.
Crucibulum striatum Broderip, not Say=*C. quiriquinæ* Lesson.
Crucibulum tenue Broderip=*C. quiriquinæ* Lesson.
Ctenoconcha nuculoides Valenciennes=*Malletia chilensis* Desmoulins
Cuma, Cumia, Fasciolina=*Cymia* Mörch.
Cumingia cleryi Adams=*C. mutica* Sowerby.
Cumingia grandis Deshayes=*C. mutica* Sowerby.
Cumingia striata A. Adams=*C. mutica* Sowerby.
Cumingia trigonularis Sowerby=*C. lamellosa* Sowerby.
Cumingia ventricosa Sowerby=*C. mutica* Sowerby.
Cypræa cervinetta Kiener=*C. exanthema* Linnæus, var.
Cypræa ferruginosa Kiener, not Gmelin=*C. annettæ* Dall.
Cypræa irina Kiener=*C. nigropunctata* Gray.
Cypræa lathyrus Kiener=*Trivia sanguinea* Gray.
Cypræa punctulata Gray=*C. robertsi* Hidalgo.
Cypræa rota Weinkauff=*Trivia radians* Lamarck.
Cypræa zonata Sowerby, Con. Ill., not Lamarck=*C. annettæ* Dall.

Cyrena cardiformis Sowerby=*C. cordiformis* Recluz.
Cyrena peruviana Deshayes=*C. anomala* Deshayes.
Cytherea, see *Macrocallista* and *Pitaria*.
Cytherea affinis Broderip=*Pitaria concinna* Sowerby.
Cytherea aurantia Hanley=*C. aurantiaca* Sowerby.
Cytherea brevispinosa Sowerby=*C. multispinosa* Sowerby, var.
Cytherea chionæa Menke=*Macrocallista squalida* Sowerby.
Cytherea corbicula Menke, not Lamarck=*Tivela byronensis*.
Cytherea dionæa Gray=*Pitaria lupanaria* Lesson.
Cytherea gigantea Sowerby, not Gmelin=*Dosinia ponderosa* Gray.
Cytherea lutea Philippi=*Macrocallista pannosa* Sowerby.
Cytherea mactroides Lamarck, not Born=*Tivela planulata*.
Cytherea obliquata Rœmer=*Pitaria pollicaris* Carpenter.
Cytherea pacifica Troschel=*Dosinia dunkeri* Philippi.
Cytherea pallida Broderip=*Pitaria multispinosa* Sowerby.
Cytherea pulla Philippi=*Tivela byronensis* Gray.
Cytherea semilamellosa Gaudichaud=*Pitaria lupanaria* Lesson.
Cytherea stultorum Menke, not Mawe=*Tivela byronensis* Gray.
Cytherea subsulcata Menke=*Anomalocardia subrugosa* Sowerby.
Cytherea suppositrix Menke=*Pitaria concinna* Broderip.
Cytherea tortuosa Broderip=*Pitaria concinna*, var.
Cytherea undulata Sowerby=*Tivela planulata* Broderip and Sowerby.
Delphinula, see *Liotia*.
Dione brevispina Deshayes=*Pitaria multispinosa* Sowerby.
Dione exspinata Reeve=*Pitaria lupinaria* Lesson.
Dione prora Reeve, not Conrad=*Pitaria pollicaris* Carpenter.
Diplodonta tellinoides Reeve=*Phacoides tellinoides* Reeve.
Diplodontina, see *Kellia*.
Discina, see *Discinisca*.
Dolium latilabre Valenciennes=*Malea ringens* Swainson.
Donacilla chilensis Orbigny=*Mesodesma donacia* Lamarck.
Donax assimilis Hanley=*D. aspera* Hanley.
Donax cayennensis (part) Roemer=*D. obesula* Deshayes.
Donax lessoni Deshayes=*Tivela planulata* Broderip and Sowerby.
Donax panamensis Philippi=*D. paytensis* Orbigny.
Dosina antiqua Gray=*Chione antiqua* King.
Dosinia simplex Hanley, 1845=*D. dunkeri* Philippi, 1844.
Drillia duplicata Weinkauff, not Sowerby=*Surcula maura*.
Entodesma chilensis Philippi=*E. cuneata* Gray.
Entodesma (*saxicola* Baird) Carpenter=*Agriodesma* Dall, 1909, new name.
Euthria Gray, 1850=*Atractodon* Charlesworth, 1837.
Fissurella affinis Gray=*F. peruviana* Lamarck.
Fissurella atrata Reeve=*F. philippiana* Reeve.
Fissurella biradiata Frembly=*F. latimarginata* Sowerby, var.
Fissurella chilensis Sowerby=*F. costata* Lesson.
Fissurella chlorotrema Menke=*F. rugosa* Sowerby.
Fissurella concinna Philippi=*F. maxima* Sowerby.
Fissurella cumingii Reeve=*F. latimarginata* var.
Fissurella elegans "Phil." (inedit.?) Peru (Tschudi).
Fissurella excelsa Reeve=*Fissuridea alta* Adams.
Fissurella galericulum Reeve=*F. latimarginata* Sowerby, var.
Fissurella grandis Sowerby=*F. nigra* Lesson.
Fissurella humilis Menke=*F. rugosa* Sowerby.
Fissurella macrotrema Sowerby, cf. *F. longifissa* Sowerby.

Fissurella mus Reeve=*Fissuridea inæqualis* Sowerby var.

Fissurella nigra Philippi=*F. philippiana* Reeve.

Fissurella nigropunctata Sowerby=*F. virescens* Sowerby var.

Fissurella occidens Gould=*F. peruviana* Lamarck.

Fissurella oriens Sowerby, cf. *F. mexicana* Sowerby.

Fissurella pica Sowerby=*F. inæqualis* Sowerby, var.

Fissurella rudis Deshayes=*F. costata* Lesson.

Fissurella subrotunda Deshayes=*F. peruviana* Lamarck.

Fissurella viminea Menke, not Reeve, cf. *F. rugosa* Sowerby.

Fissurella violacea Eschscholtz=*F. nigra* Lesson.

Fusus alternatus Philippi, 1847=*Austrofusus fontainei* Orbigny.

Fusus fusiformis Potiez and Michaud=*Trophon cassidiformis*.

Fusus purpuroides Orbigny=*Solenosteira fusiformis* Blainville.

Fusus wiegmanni Philippi=*Cymatium wiegmanni*.

Gadinia pentegoniostoma Carpenter, 1857=*G. peruviana* Sowerby.

Gadinia stellata Sowerby, 1835=*G. peruviana* Sowerby.

Gena planulata Lamarck. Philippines. Australia.

Haminea natalensis Sowerby=*H. peruviana* Orbigny.

Hipponix australis Menke, not Deshayes=*H. barbata* Sowerby.

Hipponix mitrata Orbigny=*H. antiquata* Linnæus.

Hipponix mitrula Defrance=*H. antiquata* Linnæus.

Hipponix pilosus Deshayes, 1831, cf. *H. barbata* Sowerby, 1835.

Hipponix radiata Gray, not Quoy and Gray=*H. grayana* Menke.

Hyalæa australis Orbigny, not Person=*Clio antarctica* Dall.

Hyalæa flava Orbigny, 1836=*Carolina gibbosa* Rang.

Hyalæa gegenbauri Pfeffer, 1880=*Carolina gibbosa* Rang.

Hyalæa tridentata Forskål, 1775=*Cavolina telemus* Linnæus.

Infundibulum, cf. *Trochita*.

Kellia miliaris Philippi=*Lasæa*, cf. *petitiana* Recluz.

Lamellaria kerguelensis Studer=*Marseniopsis pacifica* Bergh.

Latirus nassatulus Schubert and Wagner. Indo-Pacific.

Latirus spadiceus Reeve, 1847=*L. concentricus* Reeve.

Latirus tuberculatus Broderip, 1833=*L. ceratus* Gray.

Lavignon coarctata Orbigny=*Cumingia lamellosa* Sowerby.

Leda inornata A. Adams=*L. acuta* Conrad.

Leda lugubris Adams=*Tindaria sulculata* Couthouy.

Leda orangica Mabille=*Tindaria sulculata* Couthouy.

Lima orientalis Adams=*L. angulata* Sowerby.

Liotia cobijensis Reeve=*L. cancellata* Gray, not Kiener.

Lithodomus, see *Lithophaga*.

Littorina costulata Souleyet=*L. varia* Sowerby.

Littorina fasciata Gray=*L. varia* Sowerby.

Littorina paytensis Philippi=*L. araucana* Orbigny.

Littorina striata King, cf. *L. peruviana* Lamarck.

Littorina variegata Souleyet=*L. varia* Sowerby.

Littorina zebra Philippi=*L. peruviana* Lamarck.

Lotorium Montfort=*Cymatium* Bolten.

Lottia conica Gould=*Scurria scurra* Lesson.

Lottia cymbiola Gould=*Scurria parasitica* Orbigny.

Lottia pallida Sowerby=*Scurria scurra* Lesson.

Lottia punctata (Gray) Orbigny, 1835, not of Lamarck, 1822.

Lucina brasiliensis Mittré=*Diplodonta punctata* Say.

Lucina cornea Reeve=*Diplodonta sericata* Reeve.

Lucina guaraniana Orbigny=*Diplodonta punctata* Say.

Lucina janeirensis Reeve=*Diplodonta punctata* Say.
Lucina nitens Reeve=*Diplodonta sericata* Reeve.
Lucina venezuelensis Dunker=*Diplodonta punctata* Say.
Lucinopsis kroyeri Poulsen is not *Cyclinella kroyeri* Philippi.
Lunatia Gray cf. *Euspira* Agassiz.
Lyonsia brevifrons Sowerby=*Entodesma cuneata* Gray.
Lyonsia cuneata Orbigny=*Entodesma cuneata* Gray.
Lyonsia patagonica Orbigny=*Entodesma cuneata* Gray.
Lyonsia picta Sowerby=*Entodesma cuneata* Gray.
Macoma occidentalis Dall=*M. undulata* Hanley.
Mactra calbucana Philippi, 1893=*Mulinia byronensis* Gray.
Mactra cibaria Philippi, 1893=*Mulinia edulis* King.
Mactra cuneola Gould=*Mulinia edulis* King.
Mactra epidermia Philippi, 1893=*Mulinia edulis* King.
Mactra jonasi Philippi, 1893=*Mulinia bicolor* Gray.
Mactra lotensis Philippi, 1893=*Mulinia edulis* King.
Mactra marcida Gould=*Mulinia edulis* King.
Mactra paitensis Philippi, 1893=*M. velata* Philippi, 1848.
Mactra pencana Philippi, 1893=*Mulinia byronensis* Gray.
Marginella cypræola Sowerby=*Erato scabriuscula* Gray.
Marginella granum Kiener, 1835 not of Philippi 1850=*Erato scabriuscula* Gray.
Marinula callaöensis Petit, 1854=*M. marinella* Küster.
Meleagrina Lamarck, see *Margaritiphora* Megerle.
Melongena Schumacher, 1817=*Galeodes* Bolten, 1798.
Mesodesma chilensis Orbigny=*M. donacium* Lamarck.
Mitra chilensis Kiener, 1836=*M. orientalis* Gray.
Mitra foraminata Swainson, 1835=*M. lens* Mawe.
Mitra funiculata Reeve, 1844=*M. sulcata* Swainson.
Mitra inca Orbigny, 1841=*M. lens* Mawe.
Mitra lignaria Reeve, 1844=*M. lens* Mawe.
Mitra lineata Swainson, not Gmelin=*M. sulcata* Swainson.
Mitra maura Swainson, 1835=*M. orientalis* Gray.
Mitra rupicola Reeve, 1844=*M. lens* Mawe.
Mitrularia, cf. *Cheilea.*
Mitrularia cepacea Broderip=*Cheilea equestris* Linnæus.
Modiola caudigera Lamarck=*Lithophaga aristata* Dillwyn.
Modiola ovalis Clessin=*Modiolus purpuratus* Lamarck.
Modulus trochiformis Eydoux and Souleyet=*M. perlatus* Dillwyn.
Monoceros Lamarck, not Bloch=*Acanthina* Fischer.
Monoceros citrinum Sowerby=*Acanthina calcarlongum* Martyn.
Monoceros costatum Sowerby=*Acanthina calcarlongum* Martyn.
Monoceros crassilabrum Sowerby=*Acanthina calcarlongum* Martyn.
Monoceros cymatum Sowerby=*Acanthina lugubris* Sowerby.
Monoceros fusoides King=*Chorus giganteus* Gray.
Monoceros glabratum Deshayes=*Acanthina calcarlongum* Martyn.
Monoceros globulus Sowerby=*Acanthina calcarlongum* Martyn.
Monoceros imbricatum Sowerby=*Acanthina calcarlongum* Martyn.
Monoceros maculatum Gray=*Acanthina brevidentata* Mawe.
Monoceros muricatum Reeve=*Acanthina muricata* Broderip.
Monoceros unicorne Gray=*Acanthina calcarlongum* Martyn.
Monodonta carchidonius Lamarck, cf. *Modulus perlatus* Dillwyn.
Monodonta catenifera Potiez and Michaud, 1838, not of Kiener, 1836=*Tegula quadricostata* Gray.
Mouretia reticulata Sowerby, 1835=*Gadinia peruviana* Sowerby.

Mulinia angulata Carpenter, 1855=*Mulinia pallida* Broderip and Sowerby.
Mulinia bistrigata Mörch, 1862=*M. pallida* Broderip and Sowerby.
Mulinia carinulata (Deshayes) Reeve=*M. pallida* Broderip and Sowerby.
Mulinia coquimbana Philippi, 1893=*M. byronensis* Gray.
Mulinia donaciformis Gray, not Reeve=*M. pallida* Broderip and Sowerby.
Mulinia exalbida Gray=*M. byronensis* Gray.
Mulinia typica Gray=*M. edulis* King.
Murex boivini Kiener=*Trophon horridus* Broderip and Sowerby.
Murex crispus Broderip, 1832=*M. tortuosus* Sowerby.
Murex ducalis Broderip, 1833=*M. brassica* Lamarck.
Murex erinaceoides Valenciennes, 1846=*M. hamatus* Hinds.
Murex erythrostomus Swainson=*Phyllonotus bicolor* Valenciennes.
Murex exiguus Kiener, Reeve, Garrett, not of Broderip.
Murex hippocastanum Philippi=*Phyllonotus bicolor* Valenciennes.
Murex incisus Carpenter, not Broderip=*M. gemma* Sowerby.
Murex labiosus see *Tritonalia crassilabrum* Gray.
Murex labiosus Orbigny=*M. crassilabrum* Gray.
Murex lepidus Reeve, 1845=*M. vittatus* Broderip.
Murex lugubris Tryon, 1880, not of Broderip.
Murex monoceros Orbigny, 1841, not Sowerby=*M. fontainei* Tryon.
Murex multicostatus Dunker, 1869=*M. tortuosus* Sowerby.
Murex multicrispatus Dunker=*M. tortuosus* Sowerby.
Murex parthenopeus v. Salis=*Cymatium costatum* Sowerby.
Murex peruvianus Sowerby, 1840=*M. dipsaccus* Broderip.
Murex pliciferus Sowerby, 1840. West Africa, not Chile.
Murex radicatus Hinds, 1844=*M. lappa* Broderip.
Murex rhodocheilus King, 1831=*M. brassica* Lamarck.
Murex tortuus Catlow, 1845=*M. tortuosus* Sowerby.
Murex tricolor Valenciennes, 1833=*M. regius* Wood, 1828.
Murex vitellus Sowerby, 1870=*M. vittatus* Broderip.
Mytilus americanus Orbigny=*M. ater* Molina.
Mytilus angustanus Lamarck, cf. *M. ater* Molina.
Mytilus bifurcatus Conrad, part=*M. stearnsii* Pilsbry.
Mytilus bifurcatus Dautzenberg, 1896, Valparaiso. (=?)
Mytilus cordatus Gould=*M. granulatus* Hanley.
Mytilus cuneiformis Reeve=*M. ater* Molina.
Mytilus curvatus Stempell=*M. magellanicus* var.
Mytilus dactyloides Philippi, 1860=*M. dactyliformis* Hupé.
Mytilus hupéanus Mabille=*M. chilensis* Hupé.
Mytilus orbignyanus Hupé=*M. ater* Molina.
Mytilus ovalis Lamarck=*Modiolus purpuratus* Lamarck.
Mytilus pyriformis Gould=*M. magellanicus* Lamarck.
Mytilus ungulatus Valenciennes, not Lamarck=*M. chorus* Molina.
Mytilus violaceus Clessin, 1889, cf. *M. chilensis* Hupé.
Nassa Lamarck, 1799, not Bolten, 1798=*Alectrion* Montfort.
Nassa flammulata, Preston, 1909, cf. *Alectrion*, species.
Nassa fontainei Orbigny=*Nassa exilis* Powys.
Nassa gemma Philippi=*Alectrion complanatus.*
Nassa panamensis Adams=*N. exilis* Powys.
Nassa panamensis C. B. Adams=*N. exilis* Powys.
Nassa rubricata Gould=*Alectrion gayii* Kiener.
Nassa scabriuscula Adams, 1852=*Alectrion complanatus.*
Nassa tschudii Troschel, cf. *N. dentifera* Powys.
Nassa unidentata Powys=*N. dentifera* junior.

Nassa xanthostoma Gray, n. n. for *N. tetrostoma* Broderip and Sowerby.
Natica atacamensis Philippi=*Polinices dubius* Recluz.
Natica bonplandi Valenciennes=*Polinices glaucus* Humboldt.
Natica chemnitzii Pfeffer=*N. unifasciata* junior.
Natica elongata Troschel=*Polinices cora* Orbigny.
Natica excavata Carpenter=*N. elenæ* Recluz.
Natica galapagana Recluz=*Polinices otis* Broderip.
Natica haneti Recluz=*N. elenæ* Recluz.
Natica iostoma Menke=*N. broderipiana* Recluz.
Natica patula Sowerby=*Polinices glaucus* Humboldt.
Natica perspicua Recluz=*Polinices otis* Broderip.
Natica prichardi Forbes=*N. unifasciata* junior.
Natica rapulum Reeve=*Polinices dubius* Recluz.
Natica salangoënsis Recluz=*Polinices otis* Broderip.
Natica taslei Recluz=*N. broderipiana* Recluz.
Nerita bernhardi Recluz, cf. *N. fulgurans* Gmelin.
Nerita deshayesii Recluz=*N. scabricosta* Lamarck.
Nerita fuscata Menke=*N. scabricosta* Lamarck.
Nerita multijugis Menke=*N. scabricosta* Lamarck.
Nerita ornata Sowerby, 1823=*N. scabricosta* Lamarck.
Nerita peruviana Philippi=*N. yoldii* Recluz. China.
Neritina fontaineana Orbigny=*N. owenii* Mawe.
Neritina globosa Broderip=*N. owenii* Mawe.
Neritina guayaquilensis Sowerby, cf. *N. owenii* Mawe.
Neritina intermedia Sowerby=*N. owenii* Mawe.
Neritina latissima Broderip=*N. owenii* Mawe.
Neritina zebra Sowerby, not Lamarck=*N. sobrina* Recluz.
Nettastoma see *Pholadidea*.
Nettastomella see *Pholadidea*.
Nitidella cribraria Lamarck=*N. ocellata* Gmelin.
Nucula cuneata Sowerby=*Leda acuta* Conrad.
Nucula lyrata Hinds=*Leda eburnea* Sowerby.
Nucula obliqua Gray, Sowerby, not of Lamarck=*N. grayi*.
Nucula semiornata Orbigny=*N. pisum* Sowerby.
Ocinebra (Leach) Gray, 1847=*Tritonalia* Fleming, 1828.
Oliva hiatula Gmelin, S. Africa, cf. *O. testacea* Lamarck.
Oliva razamola Duclos, 1835=*Olivella volutella* Lamarck.
Orbicula lamellata Troschel=*Discinisca lamellosa* Broderip.
Orbicula strigata Broderip=*Discinisca cumingi* Broderip.
Orbicula tenuis Sowerby, cf. *Discinisca lævis* Sowerby.
Ostrea chiloënsis Sowerby=*O. chilensis* Philippi.
Ostrea cibialis Hupé=*O. chilensis* Philippi.
Ovula Bruguière, cf. *Simnia* Risso.
Patella atramentosa Reeve=*P. magellanica* Gmelin.
Patella chiloënsis Reeve=*P. magellanica* Gmelin.
Patella concepcionis Lesson=*Scurria zebrina* Orbigny.
Patella diaphana Reeve=*Scurria mesoleuca* Menke.
Patella goreënsis Gmelin, cf. *Crepidula crepidula* Linnæus.
Patella grammica Philippi=*Acmæa variabilis* Sowerby.
Patella lepas Gmelin=*Concholepas concholepas* Bruguière.
Patella leucophæa Philippi=*Scurria parasitica* Orbigny.
Patella lineata Philippi=*Acmæa variabilis* Sowerby.
Patella maxima Orbigny=*P. mexicana* Broderip and Sowerby.
Patella meridionalis Rochebrune=*P. magellanica* Gmelin.

Patella metallica Rochebrune=*P. magellanica* Gmelin.
Patella penicillata Reeve=*Acmæa variabilis* Sowerby.
Patella plana Reeve, not Philippi=*Acmæa araucana* Orbigny.
Patella pupillata Rochebrune=*P. magellanica* Gmelin.
Patella scutellata Gray, Wood=*Crucibulum imbricatum* Sowerby.
Patella striata Reeve=*Scurria mesoleuca* Menke.
Patella venosa Reeve=*P. magellanica* Gmelin.
Patella vespertina Reeve=*Scurria mesoleuca* Menke.
Pecten aspersus Sowerby=*P. tumbezensis* Orbigny.
Pecten inca Orbigny=*P. ventricosus* Sowerby.
Pecten magnificus Sowerby=*P. subnodosus* var.
Pecten pomatia Valenciennes cf. *P. ventricosus* Sowerby.
Pecten sowerbii Reeve, 1852=*P. tumbezensis* Orbigny.
Pecten tumidus Sowerby, 1835=*P. ventricosus* Sowerby.
Pectunculus Lamarck=*Glycymeris* Da Costa.
Pectunculus assimilis Sowerby=*Glycymeris inæqualis* Sowerby.
Pectunculus inæqualis Sowerby, 1839, not 1832=*P. bicolor* Reeve.
Pectunculus intermedius Broderip=*P. ovatus* Broderip.
Pectunculus pectiniformis Wood, not Lamarck=*P. inæqualis* Sowerby.
Penitella conradi Valenciennes=*P. penita* Conrad.
Penitella wilsoni Conrad=*Pholadidea melanura* Sowerby.
Peraclis bispinosa Pelseneer, 1888=*P. reticulata* Orbigny.
Perna Lamarck, see *Melina* Retzius.
Petricola chiloënsis Philippi=*P. rugosa* Sowerby.
Petricola nivea Gmelin. Indo-Pacific—Nicobar Islands.
Petricola ovata Troschel=*P. rugosa* Sowerby.
Petricola solida Sowerby=*P. elliptica* Sowerby.
Petricola tenuis Sowerby=*P. rugosa* Sowerby.
Petricola ventricosa Deshayes=*P. denticulata* Sowerby.
Philippina Dall, 1901=*Entodesma* Philippi, 1845.
Pholadopsis, see *Jouannetia.*
Pholas beauiana Recluz=*Martesia curta* Sowerby.
Pholas concamerata Deshayes=*Pholadidea penita* Conrad.
Pholas crucifera Sowerby, Thes., see *Barnea crucigera* Sowerby.
Pholas cucullata Gray=*Pholadidea penita* Conrad.
Pholas gibbosa Orbigny=*Xylotomea globosa* Sowerby.
Pholas grayana Sowerby, cf. *Martesia curta* Sowerby.
Pholas lamellosa Orbigny=*Barnea subtruncata* Sowerby.
Pholas laqueata Sowerby, 1849=*P. chiloënsis* Molina.
Pholas parva Sowerby, 1834=*P. chiloënsis* Molina, var.
Pholas pulcherrima Sowerby=*Jouannetia pectinata* Conrad.
Pileopsis pilosus Deshayes=*Hipponix* sp.
Pileopsis subrufa Lamarck, see *Hipponix.*
Pleurotoma, Lamarck, 1799=*Turris* Bolten, 1798.
Pleurotoma cincta Sowerby, not Lamarck=*P. zonulata* Reeve
Pleurotoma cornuta Sowerby, 1833=*P. nigerrima* Sowerby.
Pleurotoma corrugata Sowerby, not Kiener=*P. sowerbyi* Reeve.
Pleurotoma incrassata Sowerby, 1833=*Drillia bottæ* Valenciennes.
Pleurotoma turricula Sowerby, 1833=*P. sowerbyi* Reeve.
Pneumodermon violaceum Boas, part=*P. boasi* Pelseneer.
Pollia hæmastoma Gray=*Cantharus sanguinolentus* Duclos.
Psammobia crassa Hupé=*P. solida* (Gray) Philippi.
Psammosolen Hupé, see *Tagelus* Gray.

Purpura Lamarck, 1799, not of Martyn, 1784=*Thais* Bolten, 1798.
Purpura Martyn, 1784, not Lamarck, 1799=*Cerostoma* Conrad, 1837.
Purpura angulifera Duclos=*Cymia tectum* Wood.
Purpura biscostalis Reeve, 1846=*P. biserialis* Blainville, 1832.
Purpura blainvillei Deshayes, 1846=*Thais delessertiana* Orbigny.
Purpura callaöensis Blainville=*Thais delessertiana* Orbigny.
Purpura callaöensis Kiener=*P. biserialis* Blainville.
Purpura carolensis Reeve, 1846=*Thais triangularis* Blainville.
Purpura concholepas Orbigny=*Concholepas* Bruguière.
Purpura cornigera Blainville=*Acanthina brevidentata* Mawe.
Purpura diadema Reeve, 1846=*Thais costata* Blainville.
Purpura fasciolaris Lamarck, Mediterranean, not Peru.
Purpura hæmastoma Tryon, Peru=*Thais peruensis* Dall, n. n.
Purpura janellii Valenciennes=*Cantharus sanguinolentus* Duclos.
Purpura lepas v. Martens=*Concholepas concholepas* Bruguière.
Purpura melo Duclos=*Thais crassa* Blainville.
Purpura ocellata Kiener=*Acanthina brevidentata* Mawe.
Purpura orbignyi Reeve, 1846=*Solenosteira fusiformis* Blainville.
Purpura peruviana Blainville=*Concholepas concholepas* Bruguière.
Purpura peruviana Lesson, cf.=*Trophon cassidiformis* Blainville.
Purpura peruviana Souleyet=*Thais delessertiana* Orbigny.
Purpura truncata Duclos=*Acanthina muricata* Broderip.
Purpura xanthostoma Broderip, 1833=*Trophon cassidiformis* Blainville, 1832.
Pyrula ochroleuca Philippi=*Trophon cassidiformis* Blainville.
Ranella kingi Orbigny=*Argobuccinum vexillum* Sowerby.
Ranella tenuis Potiez and Michaud=*Bursa ventricosa* Broderip.
Ranella triquetra Reeve=*Eupleura muriciformis* Broderip.
Rissoina pulchra C. B. Adams=*R. cancellata* Philippi.
Saxicava antarctica Philippi=*S. solida* Sowerby.
Saxicava chilensis Hupé=*S. solida* Sowerby.
Saxicava solida Sowerby, cf. *S. arctica* Linnæus.
Saxicava tenuis Sowerby, 1834=*S. solida* Sowerby.
Saxidomus squalidus Deshayes, not Carpenter=*Marcia rufa* Lamarck.
Scala (anonymous)=*Epitonium* Bolten.
Scalaria simillima Tapparone-Canefri, 1876=*S. ducalis* Mörch.
Sigaretus Lamarck, 1799, cf. *Sinum* Bolten, 1798.
Sigaretus cymba Menke=*Sinum concavum* Lamarck.
Sigaretus grayi Deshayes=*Sinum concavum* Lamarck.
Sigaretus maximus Philippi=*Sinum concavum* Lamarck.
Siphonaria aquilirata Carpenter, 1856=*S. maura* Sowerby.
Siphonaria characteristica Reeve, 1842=*S. gigas* Sowerby.
Siphonaria concinna Sowerby. Gambia and Mauritius.
Siphonaria lecanium Philippi, 1846=*S. maura* Sowerby.
Siphonaria palmata Carpenter, 1856=*S. maura* Sowerby.
Siphonaria scutellum Deshayes, 1841. New Zealand.
Solecurtus coquimbensis Sowerby=*Tagelus dombeyi* Lamarck.
Solen gladiolus Gray, 1839=*S. macha* Molina, 1782.
Solenella norrisii Sowerby=*Malletia chilensis* Desmoulins.
Spondylus dubius Broderip=*S. crassisquama* Lamarck.
Spondylus ducalis Lamarck. Philippines, not Peru.
Spondylus leucacantha Broderip=*S. crassisquama* Lamarck.
Spondylus pictorum Sowerby=*S. crassisquama* Lamarck.
Spondylus princeps Broderip=*S. crassisquama* Lamarck.
Strombus gibberulus Linnæus, is Indo-Pacific (Peru, Tschudi).

Strombus luhuanus Linnæus, is Indo-Pacific (Peru, Tschudi).
Styliola recta Gray, 1850=*S. acicula* Rang.
Talena Gray, see *Pholadidea*.
Tectarius atyphus Stearns=*T. galapagiensis* Stearns.
Tegula atra Lesson, var., cf. *T. mæsta* Jonas.
Tellina coarctata Philippi=*T. lacunosa* Hanley. West Africa.
Tellina sanguinea Wood=*T. inæquistriata* Donovan.
Terebra belcheri Smith, 1873, not of Philippi, 1851.
Terebra chilensis Deshayes, 1859=*T. gemmulata* Kiener.
Terebra elongata Wood, 1828=*T. strigata* Sowerby.
Terebra flammea Lesson, 1830=*T. strigata* Sowerby.
Terebra patagonica Orbigny, 1841; cf. *T. gemmulata* Kiener.
Terebra zebra Kiener=*T. strigata* Sowerby.
Terebratula chilensis Orbigny, not Broderip=*Magellania venosa* Solander.
Terebratula dilatata Lamarck=*Magellania venosa* Solander.
Terebratula eximia Philippi=*Magellania venosa* Solander.
Terebratula fontaineana Orbigny=*Magellania venosa* Solander.
Terebratula gaudichaudi Blainville=*Magellania venosa* Solander.
Terebratula globosa Lamarck=*Magellania venosa* Solander.
Terebratula kochii Kuster=*Magellania venosa* Solander.
Terebratula physema Valenciennes=*Magellania venosa* Solander.
Tivela radiata Sowerby, not Megerle=*T. byronensis* Gray.
Tivela suffusa Sowerby=*T. planulata* Broderip and Sowerby.
Trigona hindsii Hanley=*Tivela byronensis* Gray.
Trigona semifulva Menke=*Tivela byronensis* Gray.
Triomphalia Sowerby=*Jouannetia* Desmoulins.
Triton, auctorum, cf. *Cymatium* Bolten.
Triton chemnitzii Gray=*Cymatium wiegmanni* Anton.
Triton ranelliformis King, not Sismonda=*Argobuccinum vexillum* Sowerby.
Triton succinctus Lamarck=*Cymatium costatum* Born.
Tritonium cancellatum Valenciennes=*Distorsio constrictus* Broderip.
Trivia costispunctata Gaskoin=*Trivia radians* Lamarck?
Trochus araucanus Orbigny=*Monodonta nigerrima* Gmelin.
Trochus bicarinatus Potiez and Michaud=*T. luctuosus* Orbigny.
Trochus brasilianus Menke=*Tegula reticulata* Gray.
Trochus buschii Philippi=*Astræa buschii* Philippi.
Trochus carinatus Koch=*T. luctuosus* Orbigny.
Trochus kieneri Hupé=*T. euryomphalus* Jonas.
Trochus microstomus Orbigny=*T. tridentatus* Potiez and Michaud.
Trochus perlatus Dillwyn=*T. tectum* Gmelin, part.
Trochus radians Lamarck=*Trochita trochiformis* Gmelin.
Trochus stenomphalus Jonas=*T. tridentatus* Potiez and Michaud.
Trochus torulosus Philippi=*T. quadricostatus* Gray.
Trochus tridens Menke=*T. tridentatus* Potiez and Michaud.
Trochus unidens Chemnitz=*T. tectum* Gmelin, part.
Turbinella ardeola Valenciennes, 1833=*Vasum cæstus* Broderip.
Turbinella muricata Born, 1780=*Vasum cæstus* Broderip.
Turbo assimilis Kiener=*T. fluctuosus* Wood.
Turbo atrum Kiener=*Tegula atra* Lesson.
Turbo brevispinosus Sowerby=*Astræa buschii* Philippi.
Turbo depressus Carpenter=*T. fluctuosus* Wood.
Turbo fluctuatus Reeve=*T. fluctuosus* Wood.
Turbo inermis Lamarck, not Kiener=*Astræa buschii* Philippi.
Turbo lugubris King=*T. niger* Wood.

Turbo lugubris Philippi, not King, cf. *Tegula atra* junior.
Turbo moltkeanus Reeve, not Gmelin=*T. fluctuosus* Wood.
Turbo nigerrimus Philippi=*Monodonta araucana* Orbigny.
Turbo propinquus Hupé=*T. elevatus* Eydoux and Souleyet.
Turbo quoyi Kiener=*Monodonta araucana* Orbigny.
Turbo tessellatus Kiener=*T. fluctuosus* Wood.
Turritella banksii Reeve=*T. goniostoma* Valenciennes.
Turritella broderipiana Reeve=*T. goniostoma* Valenciennes.
Turritella lentiginosa Reeve=*T. goniostoma* Valenciennes.
Turritella marmorata Kiener=*T. goniostoma* Valenciennes.
Turritella punctata Kiener=*T. goniostoma* Valenciennes.
Turritella tricarinata King=*T. cingulata* Sowerby.
Turritella ungulata err. typ. pro *T. cingulata* Sowerby.
Venerupis fernandeziana Stempell, cf. *V. oblonga* Sowerby.
Venerupis fimbriata Sowerby, cf. *V. oblonga* Sowerby.
Venus alternata Broderip=*Pitaria circinata* Born.
Venus beaui Recluz=*Chione subrostrata* Lamarck.
Venus bilineata Reeve, cf. *Anomalocardia subimbricata* Sowerby.
Venus californica Carpenter=*Chione compta* Broderip.
Venus cardioides Lamarck, cf. *Chione asperrima* Sowerby.
Venus chilensis Sowerby=*Paphia thaca* Molina.
Venus costellata Sowerby=*Chione antiqua* King.
Venus crenifera Sowerby=*Chione subrostrata* Lamarck.
Venus cycloides Orbigny=*Dosinia ponderosa* Gray.
Venus cypria Sowerby, 1835, not Brocchi, 1814=*V. mariæ* Orbigny.
Venus discors Sowerby=*Paphia grata* Say.
Venus discrepans Philippi, not Sowerby, cf. *Chione antiqua* King.
Venus dombeyi Lamarck=*Paphia thaca* Molina.
Venus entobapta Jonas=*Chione undatella* Sowerby.
Venus excavata Carpenter=*Chione undatella* Sowerby.
Venus expallescens Philippi=*Marcia rufa* Lamarck.
Venus histrionica Sowerby=*Paphia grata* Say.
Venus ignobilis Philippi=*Paphia thaca* Molina.
Venus intersecta Sowerby, cf. *Chione asperrima* Sowerby.
Venus lithoida Jonas=*Marcia rufa* Lamarck.
Venus modesta Sowerby=*Pitaria cumingi* Orbigny.
Venus neglecta Sowerby=*Chione subrostrata* Lamarck.
Venus nuttalli Conrad=*Chione undatella* Sowerby.
Venus opaca Sowerby=*Marcia rufa* Lamarck.
Venus paytensis Orbigny=*Pitaria concinna* Sowerby.
Venus pectunculoides Valenciennes=*Chione asperrima* Sowerby.
Venus perdix Valenciennes=*Chione undatella* Sowerby.
Venus portesiana Orbigny=*Chione subrostrata* Lamarck.
Venus simillima Sowerby=*Chione undatella* Sowerby.
Venus solangensis Orbigny=*Tivela byronensis* Gray.
Venus subrostrata Reeve, not Lamarck=*Chione undatella* Sowerby.
Venus thouarsi Valenciennes=*Cytherea multicostata* Sowerby.
Venus triradiata Anton=*Anomalocardia subrugosa* Sowerby.
Voluta coerulea Hanley's Index Test.=*Olivella volutella* Lamarck.
Waldheimia, see *Magellania*.
Xylophaga Turton, not *Xylophagus* Menschen=*Xylotomea* Dall.
Xylophaga dorsalis Stempell=*Xylotomea globosa* Sowerby.

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